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# USATHAMA

U.S. Army Toxic and Hazardous Materials Agency

TOOELE ARMY DEPOT  
PRELIMINARY ASSESSMENT/SITE INVESTIGATION  
FINAL REPORT

VOLUME II - SOUTH AREA

APPENDIXES

DECEMBER 1988

PREPARED FOR:

U.S. ARMY TOXIC AND HAZARDOUS MATERIALS AGENCY  
INSTALLATION RESTORATION DIVISION  
ABERDEEN PROVING GROUND, MARYLAND 21010-5401

BY:

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.  
HUNT VALLEY/LOVETON CENTER  
15 LOVETON CIRCLE  
SPARKS, MARYLAND 21152

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**FINAL REPORT**  
**PRELIMINARY ASSESSMENT/SITE INVESTIGATION**  
**TOOELE ARMY DEPOT, UTAH**  
**VOLUME II - SOUTH AREA**  
**APPENDIXES**

Prepared for  
U.S. Army Toxic and Hazardous Materials Agency  
Aberdeen Proving Ground, Maryland 21010

Prepared by  
EA Engineering, Science, and Technology, Inc.  
15 Loveton Circle  
Sparks, Maryland 21152

December 1988

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APPENDIX II-A

ANALYTICAL DATA FOR DRILLING/DECONTAMINATION WATER:  
SUPPLY WELL NOS. 3 (N-TEAD) AND 2 (S-TEAD)



ENVIRODYNE  
ENGINEERS

12161 Ladue Road  
St. Louis, Missouri 63146  
(314) 434-6900

February 26, 1986  
3060-364

RECEIVED MAR 03 1986

Ms. Linda McConnell  
EA Engineering Science & Technology, Inc.  
15 Loveton Circle  
Sparks, MD 21152

Dear Ms. McConnell:

Enclosed are the results of analysis of two water samples from Tooele Army Depot. The samples were received January 18, 1986. Table 1 contains the results for the samples as well as the method blank and three control spikes analyzed with the lot. Table 2 contains data that will be needed to enter the results into the USATHAMA data management system. All parameters analyzed for Tooele and Lake City are listed in Table 2, so some parameters may be listed that were not required on your samples.

I have also enclosed copies of all control charts for the analyses performed as well as comments from our review of the charts. A copy of the charts and comments should be forwarded to USATHAMA for their review and approval.

Please contact me if you have any questions concerning this report or if you need additional information.

Sincerely,

*Judy Stone*  
Judith L. Stone  
Project Manager

JLS/csg  
Enclosures

## ANALYTICAL RESULTS (VOA)

Instrument: #21

Project No./Client 3060-364/EA Engineers/Tooole Date February 18, 1986 Page 1 of 2

site	////	QCMB	2	3				
lab no.	////							
frn no.	////							
analysis date	////	1-25-86	1-25-86	1-25-86				
analysis time	////							
analyst initials	////	BAK	BAK	BAK				
acrolein	100	ACROLN						
acrylonitrile	100	ACRYLO						
benzene	10	C6H6						
bromoform	20	CHBR3						
carbon tetrachloride	30	CCL4						
chlorobenzene	10	CLC6H5						
chlorodibromomethane	10	DBRCLM						
chloroethane	30	C2H5CL						
2-chloroethylvinyl ether	20	2CLEVE						
chloroform	10	CHCL3						
dichlorobromomethane	20	BRDCLM						
1,1-dichloroethane	20	11DCLE						
1,2-dichloroethane	20	12DCLE						
1,1-dichloroethylene	20	11DCE						
1,2-dichloropropane	20	12DCLP						
1,3-dichloropropylene	10	13DCP						
ethylbenzene	10	ETC6H5						
methyl bromide	30	CH3BR						
methyl chloride	10	CH3CL						
methylene chloride	10	CH2CL2	5	8	4			
1,1,2,2-tetrachloroethane	10	TCLEA						
tetrachloroethylene	10	TCLEE						
toluene	10	MEC6H5						
1,2-trans-dichloroethylene	20	T12DCE						
1,1,1-trichloroethane	20	111TCE						
1,1,2-trichloroethane	20	112TCE						
trichloroethylene	10	TRCLE						
trichlorofluoromethane	50	CCL3F						
vinyl chloride	30	C2H3CL						

## VOA SURROGATES

Spike level

Units

d4-1,2-dichloroethane	12DCD4							
d8-toluene	MEC5D8							
p-BFB	PBFB							

NOTE: All results reported in ug/l unless otherwise noted.  
Where no value appears, the compound was not detected.

## ANALYTICAL RESULTS (BNA)

Instrument: 822

Project No./Client 3060-364 EA Engineers/Tooele Date February 18, 1986 Page 2 of 2

Site	////	NA	SA	QCMB				
lab no.	////	Well 3	Well 2					
frn no.	////							
analysis date	////	1-30-86	1-30-86	1-30-86				
analysis time	////							
analyst initials	////	LMC	LMC	LMC				
19 acenaphthene	ANAPNE	150						
29 acenaphthylene	ANAPYL	100						
39 anthracene*	ANTRC	100						
49 benzidine	BENZID	700						
59 benzo(a)anthracene*	BAANTR	100						
69 benzo(a)pyrene	BAPYR	600						
79 3,4-benzofluoranthene*	34BFAN	200						
89 benzo(ghi)perylene	BGHTPY	300						
99 benzo(k)fluoranthene*	BKFANT	200						
109 bis(2-chloroethoxy)methane	B2CEXM	200						
119 bis(2-chloroethyl)ether	B2CLEE	150						
129 bis(2-chloroisopropyl)ether	B2CIPE	150						
139 bis(2-ethylhexyl)phthalate	B2EHP	150	3	3	3			
149 4-bromophenyl phenyl ether	4BRPPE	350						
159 butyl benzyl phthalate	BBZP	150						
169 2-chloronaphthalene	2CNAP	200						
179 4-chlorophenyl phenyl ether	4CLPPE	150						
189 chrysene* (see 59)	CHRY	100						
199 dibenzo(a,h)anthracene	DBAHA	150						
209 1,2-dichlorobenzene	12DCLB	200						
219 1,3-dichlorobenzene	13DCLB	200						
229 1,4-dichlorobenzene	14DCLB	200						
239 3,3'-dichlorobenzidine	33CL2B	700						
249 diethyl phthalate	DEP	150						
259 dimethyl phthalate	DMP	200						
269 di-n-butyl phthalate	DNEP	100						
279 2,4-dinitrotoluene	24DNT	150						
289 2,6-dinitrotoluene	26DNT	800						
299 di-n-octyl phthalate	DNOP	100						
309 1,2-diphenylhydrazine (as azobenzene)	12DPH	150						
319 fluoranthene	FANT	100						
329 fluorene	FLRENE	150						
339 hexachlorobenzene	CL6BZ	350						
349 hexachlorobutadiene	HCBD	800						
359 hexachlorocyclopentadiene	CL6CP	800						
369 hexachloroethane	CL6ET	500						
379 indeno(1,2,3-cd)pyrene	ICDPYR	300						
389 isophorone	ISOPHR	100						
399 naphthalene	NAP	100						
409 nitrobenzene	NR	200						
419 N-nitrosodimethylamine	NDMA	150						
429 N-nitrosodi-n-propylamine	NPMPA	200						
439 N-nitrosodiphenylamine	NNDPA	150						
449 phenanthrene* (see 38)	PHANTR	100						
459 pyrene	PYR	100						
469 1,2,4-trichlorobenzene	123TCB	100						
BNA SURROGATES								
Spike level		Units						
ds-nitrobenzene	NBD5							
2 fluorobiphenyl	FLOBP							
ds-naphthalene	NAPDS							

NOTE: All results reported in ug/l unless otherwise noted.  
Where no value appears, the compound was not detected.

NA=North Area

SA=South Area

## ANALYTICAL RESULTS

Instrument: #22

Project No./Client 3060-364 EA Engineers/Tooole Date February 18, 1986 Page 2 of 2

Site	////	NA	SA	OCMB					
lab no.	////	Well 3	Well 2						
frn no.	////								
analysis date	////	1/30/86	1/30/86	1/30/86					
analysis time	////								
analyst initials	////	LMC	LMC	LMC					
ACID COMPOUNDS									
2A 2-chlorophenol	2CLP	200							
2A 2,4-dichlorophenol	24DCLP	300							
2A 2,4-dimethylphenol	24DMPN	400							
2A 4,6-dinitro-o-cresol	46DN2C	700							
2A 2,4-dinitrophenol	24DNP	700							
2A 2-nitrophenol	2NP	400							
2A 4-nitrophenol	4NP	350							
2A p-chloro-m-cresol	4CL3C	400							
2A pentachlorophenol	PCP	350							
2A phenol	PHENOL	150							
2A 2,4,6-trichlorophenol	246TCP	800							

## ACID SURROGATES

Spike level

Units

2-F-phenol	2FP								
phenol-66	PHEN66								
penta-F-phenol	PFP								

## PESTICIDES

1P aldrin	ALDRN	1000							
2P a-BHC	ABHC	1000							
3P b-BHC	BBHC	1000							
4P γ-BHC (lindane)	LIN	1000							
5P δ-BHC	DBHC	1000							
6P chlordane	CLDAN	25.000							
7P 4,4'-DDT	PPDDT	1000							
8P 4,4'-DDE	PPDDE	1000							
9P 4,4'-DDD	PPDDD	1000							
10P dieldrin	DLDRN	1000							
11P α-endosulfan	AESEIF	5000							
12P β-endosulfan	BESEIF	5000							
13P endosulfan sulfate	ESFSO4	5000							
14P endrin	ENDRN	2000							
15P endrin aldehyde	ENDALD	5000							
16P heptachlor	HPCL	1000							
17P heptachlor epoxide	HPCLF	1000							
18P PCB-1242	PCB242	10.000							
19P PCB-1254	PCB254	10.000							
20P PCB-1221	PCB221	10.000							
21P PCB-1232	PCB232	10.000							
22P PCB-1248	PCB248	10.000							
23P PCB-1260	PCB260	10.000							
24P PCB-1016	PCB016	10.000							
25P toxaphene	TXPHEN	50.000							

NOTE: All results reported in \_\_\_\_\_ unless otherwise noted.  
Where no value appears, the compound was not detected.

TABLE 1. DATA SUMMARY<sup>a</sup>, TOOELE ARMY DEPOT

Analyte	North Area		South Area		Target/Found	
	Well 3	Well 2	QCMB	QCSP	QCSP	QCSP
Nitroaromatics:						
NB	<2.2	<2.2	<2.2			
13DNB	<2.3	<2.3	<2.3			
135TNB	<1.4	<1.4	<1.4			10.4/8.74
24DNT	<0.56	<0.56	<0.56		3.12/2.35	5.20/4.46
26DNT	<1.2	<1.2	<1.2		3.21/2.50	5.35/4.60
246TNT	<1.9	<1.9	<1.9		4.50/3.43	6.00/4.60
RDX	<7.0	<7.0	<7.0		26.3/18.4	35.1/26.9
HMX	<23	<23	<23		60.6/24.3	80.8/32.0
Tetryl	<5.6	<5.6	<5.6			10.7/8.83
						10.0/5.57
						58.5/44.1
						101/41.0
BNAs:						
2FP	40.0/14.0	50.0/19.5	40.0/14.8			
PHEND6	30.0/6.2	50.2/13.2	30.0/9.7			
PFP	39.7/11.6	49.7/10.5	39.7/8.5			
2FBP	39.7/8.2	49.7/24.3	39.7/18.9			
DEPD4	29.5/13.1	49.2/33.7	29.5/16.8			
DNQPD4	30.0/6.9	50.0/16.9	30.0/11.5			
VOAs:						
CDCL3	15.0/11.6	30.0/27.3	15.0/12.9			
12DCD4	5.0/3.1	10.0/7.9	5.0/3.4			
ETBD10	15.0/13.9	30.0/28.1	15.0/13.3			
Metals:						
As	<9	<9	<9	10/7.6	25/28.8	40/49.6
Ba	<1000	<1000	<1000	1500/1410	3000/2700	5000/4320
Cd	<3.6	<3.6	<3.6	10.0/10.1	25.0/23.7	50.0/47.4
Cr	<8.4	<8.4	<8.4	10/10.3	20/22.7	50/51.4
Cu	<1	23.8	<1	2/1.4	5/5.4	10/12.5
Pb	<9.6	<9.6	<9.6	15/14.0	25/23.0	50/43.6
Ni	<25	<25	<25	50/39	100/88	250/247
Se	<3	<3	<3	5/5.6	10/9.3	25/19.4
Ag	<0.5	<0.5	<0.5	1.0/1.14	2.0/2.29	5.0/4.62
Zn	<100	<100	<100	200/210	400/409	1000/1040
Hg	<0.85	<0.85	<0.85	1.5/1.42	2.5/2.41	5.0/4.80
CYN	<11	<11	<11	20.0/18.0	40.0/40.1	100/100

TABLE 1. DATA SUMMARY<sup>a</sup>, TOOELE ARMY DEPOT  
(Continued)

Analyte	North Area Well 3	South Area Well 2	QCMB	Target/Found	
				QCSP	QCSP
Surfactants	<25	<25	<25	200/195	500/400
Phenols (PHENLC)	5	5	<5	10/9	30/30
NIT (NO3/NO2)	2,750	1,850	<500	1,000/1,000	3,000/3,000
CL	158	52,600	<900	2,000/1,700	5,000/5,200
P	310	200	<100	200/200	400/420
BR	410	490	<100	200/240	500/400
					1,000/960
					50/50
					5,000/4,800
					10,000/9,800
					1,000/1,050
					1,000/1,010
Pesticides:					
aldrin	<0.15	<0.15	<0.15	0.4/0.125	0.8/0.481
alpha-BHC	<0.1	<0.1	<0.1		
beta-BHC	<0.1	<0.1	<0.1		
delta-BHC	<0.1	<0.1	<0.1		
lindane	<0.03	<0.03	<0.03	0.04/0.042	0.08/0.106
chlordane	<0.1	<0.1	<0.1		
4,4'-DDD	<0.1	<0.1	<0.1		
4,4'-DDE	<0.1	<0.1	<0.1		
4,4'-DDT	<0.3	<0.3	<0.3		
dieldrin	<0.086	<0.086	<0.086		
endosulfan I	<0.1	<0.1	<0.1	0.5/0.460	1.0/1.10
endosulfan II	<0.1	<0.1	<0.1	0.2/0.183	0.4/0.385
endosulfan sulfate	<0.1	<0.1	<0.1		
endrin	<0.22	<0.22	<0.22	0.4/0.408	0.8/0.919
endrin aldehyde	<0.1	<0.1	<0.1		
heptachlor	<0.7	<0.7	<0.7	2.0/1.14	4.0/3.38
heptachlor epoxide	<0.1	<0.1	<0.1		
toxaphene	<0.5	<0.5	<0.5		
PCB-1016	<0.5	<0.5	<0.5		
PCB-1221	<0.5	<0.5	<0.5		
PCB-1232	<0.5	<0.5	<0.5		
PCB-1242	<0.5	<0.5	<0.5		
PCB-1248	<0.5	<0.5	<0.5		
PCB-1254	<0.5	<0.5	<0.5		
PCB-1260	<0.5	<0.5	<0.5		

NOTES: <sup>a</sup>All data are reported in ug/l and are not corrected for accuracy.

TABLE 2. DATA FOR CODING

<u>Analyte</u>	<u>Method No.</u>	<u>Accuracy</u>	<u>Precision<sup>a</sup></u>	<u>Inst. No.</u>	<u>Initials</u>	<u>Analysis Date (1986)</u>
<b>Nitroaromatics:</b>						
NB	D1	0.746	0.375	10	MHO	1/20
13DNB	D1	0.960	1.02	10	MHO	1/20
135TNB	D1	0.867	0.378	10	MHO	1/20
24DNT	D1	0.955	0.797	10	MHO	1/20
26DNT	D1	0.835	0.323	10	MHO	1/20
246TNT	D1	0.695	0.482	10	MHO	1/20
RDX	D1	0.851	4.70	10	MHO	1/20
HMX	D1	0.414	5.03	10	MHO	1/20
Tetryl	D1	0.778	3.97	10	MHO	1/20
<b>BNAs:</b>						
2FP	K1	0.370	999.	22	LMC	1/30
PHEND6	K1	0.263	999.	22	LMC	1/30
PFP	K1	0.237	999.	22	LMC	1/30
2FBP	K1	0.379	999.	22	LMC	1/30
DEPD4	K1	0.749	999.	22	LMC	1/30
DNOPD4	K1	0.391	999.	22	LMC	1/30
<b>VOAs:</b>						
CDCL3	2J	0.937	999.	21	BAK	1/25
12DCD4	2J	0.820	999.	21	BAK	1/25
ETBD10	2J	0.960	999.	21	BAK	1/25
<b>Metals:</b>						
Sb	1B <sup>b</sup>	1.00	3.72	11	AMS	2/21
As	1B	1.04	999.	11	AMS	2/26
Ba	1M	0.901	999.	12	RDS	2/17
Be	b	0.987	3.09	20	JMN	2/17
Cd	1M	0.934	1.13	12	RDS	2/13
Cr	1B	1.01	2.69	11	AMS	2/14
Cu	1B	1.01	999.	11	AMS	2/22
Pb	1B	0.832	4.43	11	AMS	2/21
Ni	b	0.880	8.28	20	JMN	2/17
Se	1B	1.05	999.	11	AMS	2/23
Ag	1B	1.07	999.	11	AMS	2/12
Tl	1B	0.881	2.34	11	AMS	2/22
Zn	1M	1.04	26.6	12	RDS	2/13
Hg	1D	0.964	0.244	13	PAW	1/23
CYN	4K	1.02	5.38	15	BJW	1/27
<b>Surfactants</b>						
99	99	000	999.	15	CAJ	1/18
Phenols (PHENLC)	b	1.02	0.961	16	EGD	1/29
NIT (NO3/NO2)	1U	0.950	47.3	16	EGD	1/27
CL	6X	1.00	999.	00	RDS	2/10
F	b	1.06	120	15	PAW	2/12
BR	c	0.989	999.	15	CAJ	2/11

TABLE 2. DATA FOR CODING  
(CONTINUED)

<u>Analyte</u>	<u>Method No.</u>	<u>Accuracy</u>	<u>Precision<sup>a</sup></u>	<u>Inst. No.</u>	<u>Initials</u>	<u>Analysis Date (1986)</u>
<b>Pesticides:</b>						
ALDRN	2F	0.673	0.0494	07	SAW	1/30
LIN	2F	1.22	999.	07	SAW	1/30
CLDAN	2F	0.947	999.	07	SAW	1/30
PPDDT	2F	1.21	999.	07	SAW	1/30
DLDRN	2F	1.04	0.0290	07	SAW	1/30
EN <sup>-</sup> RN	2F	1.33	0.0825	07	SAW	1/30
HPCL	2F	0.886	999.	07	SAW	1/30

NOTES: <sup>a</sup>The precision value (other than 999.) must be tied to the exponent for the result. If the exponent is other than zero, the decimal point for the precision value must be moved so when the reported precision is combined with the exponent, it gives the value listed in the table.

<sup>b</sup>These parameters have not been certified by USATHAMA as of this report date, but the certification analyses and method documentation have been submitted for approval.

<sup>c</sup>Bromide is not certified.

## GC/MS PRIORITY POLLUTANTS-DETECTION LIMITS

## VDA's (WATER)

parameter	code	detection limit (ugl)
BENZENE	C6H6	3
BROMOFORM	CHBR3	3
CARBON TETRACHLORIDE	CCL4	0.8
CHLOROBENZENE	CLC6H5	3
CHLORODIBROMOMETHANE	DBRCLM	0.8
CHLOROETHANE	C2H5CL	3
2-CHLOROETHYL VINYL ETHER	2CLEVE	3
CHLOROFORM	CHCL3	3
DICHLOROBROMOMETHANE	BRDCLM	0.8
1,1-DICHLOROETHANE	11DCLE	3
1,2-DICHLOROETHANE	12DCLE	0.8
1,1-DICHLOROETHYLENE	11DCE	3
1,2-DICHLOROPROPANE	12DCLP	0.8
1,3-DICHLOROPROPYLENE	13DCPE	0.8
ETHYLBENZENE	ETC6H5	3
METHYL BROMIDE	CH3BR	3
METHYL CHLORIDE	CH3CL	3
METHYLENE CHLORIDE	CH2CL2	3
1,1,2,2-TETRACHLOROETHANE	TCLEA	3
TETRACHLOROETHYLENE	TCLEE	3
1,2-TRANSDICHLOROETHYLENE	T12DCE	3
1,1,1-TRICHLOROETHANE	111TCE	0.8
1,1,2-TRICHLOROETHANE	112TCE	0.8
TRICHLOROETHYLENE	TRCLE	3
TRICHLOROFLUOROMETHANE	CCL3F	3
VINYL CHLORIDE	C2H3CL	3

## GC/MS PRIORITY POLLUTANTS-DETECTION LIMITS

## ACID'S (WATER)

parameter	code	detection limit (ugl)
2-CHLOROPHENOL	2CLP	4
2,4-DICHLOROPHENOL	24DCLP	4
2,4-DIMETHYLPHENOL	24DMPN	3
4,6-DINITRO-O-CRESOL	46DN2C	9
2,4-DINITROPHENOL	24DNP	9
2-NITROPHENOL	2NP	3
4-NITROPHENOL	4NP	9
P-CHLORO-M-CRESOL	4CL3C	9
PENTACHLOROPHENOL	PCP	9
PHENOL	PHENOL	3
2,4,6-TRICHLOROPHENOL	246TCP	9

## PESTICIDE'S (WATER)

parameter	code	detection limit (ugl)
ALDRIN	ALDRN	4
ALPHA-BHC	ABHC	4
BETA-BHC	BBHC	4
GAMMA-BHC (LINDANE)	LIN	4
DELTA-BHC	DBHC	4
CHLORDANE	CLDAN	3
4,4'-DDT	PPDDT	3
4,4'-DDE	PPDDE	3
4,4'-DDD	PPDDD	3
DIELDRIN	DLDRN	3
ALPHA-ENDOSULFAN	AENSLF	3
BETA-ENDOSULFAN	BENSLF	3
ENDOSULFAN SULFATE	ESFS04	3
ENDRIN	ENDRN	4
HEPTACHLOR	HPCL	4
HEPTACHLOR EPOXIDE	HPCLE	4

GC/MS PRIORITY POLLUTANTS-DETECTION LIMITS  
BNA's (WATER)

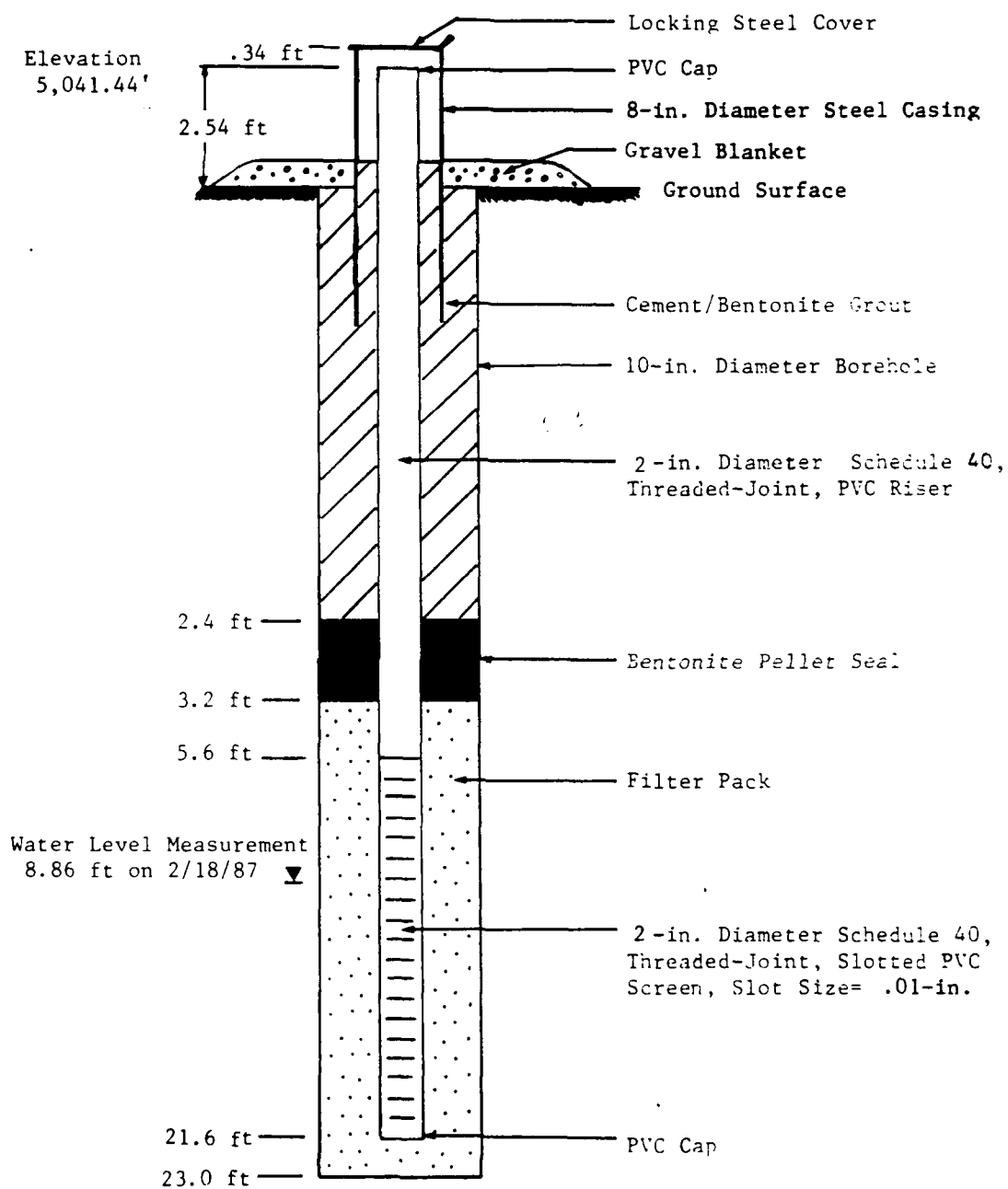
parameter	code	detection limit (ugl)
ACENAPHTHENE	ANAPNE	10
ACENAPHTHYLENE	ANAPYL	10
ANTHRACENE	ANTRC	4
BENZIDINE	BENZID	3
BENZO(A)ANTHRACENE	BAANTR	3
BENZO(A)PYRENE	BAPYR	3
3,4-BENZOFUORANTHENE	BBFANT	3
BENZO(GH)PERYLENE	BGHIPY	3
BENZO(K)FLUORANTHENE	BKFANT	3
BIS-2-CHLOROISOPROPYLETHER	B2CIPE	10
BIS-3-ETHYLHEXYLPHTHALATE	B2EHP	3
4-BROMOPHENYLPHENYLETHER	4BRPPE	10
BUTYLBENZYLPHTHALATE	BBZP	3
2-CHLORONAPHTHALENE	2CNAP	10
4-CHLOROPHENYLPHENYLETHER	4CLPPE	10
CHRYSENE	CHRY	3
DIBENZO(A,H)ANTHRACENE	DBAHA	3
1,2-DICHLOROBENZENE	12DCLB	10
1,3-DICHLOROBENZENE	13DCLB	10
1,4-DICHLOROBENZENE	14DCLB	10
3,3'-DICHLOROBENZIDINE	33DCBD	3
DIETHYLPHTHALATE	DEP	4
DIMETHYLPHTHALATE	DMP	4
DI-N-BUTYLPHTHALATE	DNBP	4
2,4-DINITROTOLUENE	24DNT	10
2,6-DINITROTOLUENE	26DNT	10
DI-N-OCTYLPHTHALATE	DNOP	3
1,2-DIPHENYLHYDRAZINE	12DPH	10
FLUORANTHENE	FANT	3
FLUORENE	FLRENE	10
HEXACHLOROBENZENE	CL6BZ	10
HEXACHLOROBUTADIENE	HCBD	10
HEXACHLOROCYCLOPENTADIENE	CL6CP	10
HEXACHLOROETHANE	CL6ET	10
INDENO(1,2,3-CD)PYRENE	ICDPYR	3
ISOPHORONE	ISOPHR	10
NAPHTHALENE	NAP	10
NITROBENZENE	NB	10
N-NITROSODIMETHYLAMINE	NNDMEA	10
N-NITROSODI-N-PROPYLAMINE	NDNPA	3
N-NITROSODIPHENYLAMINE	NNDPA	10
PHENANTHRENE	PHANTR	3
PYRENE	PYR	3
1,2,4-TRICHLOROBENZENE	124TCB	10

**APPENDIX II-B**

**S-TEAD WELL COMPLETION DIAGRAMS, BORING LOGS, AND DEVELOPMENT LOGS**

# COMPLETION DIAGRAM

## WELL CAM-1



TOOELE ARMY DEPOT, UTAH

## LEGEND

CAM-1

### Particle Size Identification

Boulders	12-in. diameter or more
Cobbles	3-12-in. diameter
Gravel	Coarse 3/4-3 in. Fine 1/4-3/4 in.
Sand	Coarse 2.0-4.75 mm (dia. of pencil lead) Medium 0.425-2.0 mm (dia. of broom straw) Fine 0.074-0.425 mm (dia. of human hair)
Silt	0.005-0.074 mm (cannot see particles)

### Moisture Content

Descriptive Term	Criteria
Dry	Absence of moisture, dusty, dry to touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

### Relative Proportions

Descriptive Term	Percent
Trace	1-10
Little	11-20
Some	21-35
And	36-50

### NONCOHESIVE SOILS

(Silt, Sand, Gravel, and Combinations)

#### Density

Descriptive Term	N (a)
Very Loose	5 blows/ft or less
Loose	6-10 blows/ft
Medium Dense	11-30 blows/ft
Dense	31-50 blows/ft
Very Dense	51 blows/ft or more

### COHESIVE SOILS

(Clay, Silt, and Combinations)

#### Consistency

Descriptive Term	N (a)
Very Soft	1 blows/ft or less
Soft	4-5 blows/ft
Medium Stiff	6-10 blows/ft
Stiff	11-15 blows/ft
Very Stiff	16-30 blows/ft
Hard	31 blows/ft or more

DRILLING CONTRACT Sargent, Hawkins & Beckwith  
 Jim Carter

BY Tom Porter  
 DATE 5/17/67



EA ENGINEERING,  
 SCIENCE, AND  
 TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
 Surface Elevation: \_\_\_\_\_  
 Casing Above Surface: \_\_\_\_\_  
 Reference Elevation: \_\_\_\_\_  
 Reference Description: \_\_\_\_\_

JOB NO.	CLIENT	LOCATION
THA 51 E	USAHAMA	THA-3 CAMOS
DRILLING METHOD: 6-in I.D. w/ 10-in O.D.	BORING NO.	
Hollow Stem Auger. CME-75	CAMD-1	
Truck mounted drilling rig	SHEET	
SAMPLING METHOD: 2-in Standard Split	1 of 2	
Spm driven 24" w/ 140 lbs	DRILLING	
	START	FINISH
WATER LEVEL	7.66	7.26
TIME	1640	0920
DATE	7-10-80	7-16-80
REFERENCE	Below 6.5	Below 7.10

SAMPLER TYPE	WATER LEVEL	DEPTH OF CASING	SAMPLE NO	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
GRAB			1	2	0		Gravel and dirt area betw building and Black top
			2	4	1	Fill	Make yellowish brown (10yr 6/2)
			3	5	2		Fill - medium to coarse gravel and medium to coarse sand w/ some silt, dry loose
			4	6	3		Notes: 3' driller notice change in driller to softer material.
			5	7	4		1. Augers Advance to 4' Ball of silt or clay coming up auger from 3'
S.S.	24" 18"	2	8	8	5	ML	2. S.S. driven from 4-6' w/ 18" Recovery (R)
			9	9	6		3. HALL Kick of 2d ppm issue has from sample.
			10	10	7		
			11	11	8		
			12	12	9		
S.S.	24" 22"	3	13	13	10	ML	SANDY SILT: pale olive (10yr 6/2) silt w/ little to some fine sand trace clay no apparent bedding wet. medium dense.
			14	14	11		Note: Augers Advanced to 9' S.S. driven from 9 ft 11" w/ 2" R.
			15	15	12		2. HALL Kick of 1 ppm from sample
			16	16	13		
			17	17	14		
			18	18	15		
S.S.	24" 8"	4	19	19	16	SM	Silty sand: pale olive (10yr 6/2) fine sand w/ little medium sand, little to some silt wet occasional layers medium betw 14-19' to coarse sand, loose
			20	20	17		Note: Augers Advanced to 14' S.S. driven from 14-16' w/ 8" R.
			21	21	18		saturated material coming up auger
			22	22	19		
			23	23	20		
S.S.	24" 12"	5	24	24	21	ML	CLAYEY SILT: pale olive to 19' S.S. driven from 19-21' w/ 12" R.
			25	25	22		12" of fine stuff in spoon.
			26	26	23		
			27	27	24		
			28	28	25		
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			99	99	96		
			100	100	97		



EA ENGINEERING,  
SCIENCE, AND  
TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.

7HA 516

CLIENT

USA TITAMA

LOCATION

CAMO  
TAMO-5

DRILLING METHOD:

BORING NO.

CAMO-1

SAMPLING METHOD:

SHEET

2 of 2

DRILLING

START

FINISH

TIME

TIME

WATER LEVEL

TIME

DATE

REFERENCE

DATE

DATE

DRILLING CONT.

SAMPLER TYPE	INCHES DRIVEN	DEPTH OF CASING	SAMPLE NO.	BLOWS/6 IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
					0		
					1		
					2		
					3		
				15	4		
S.S.	24" / 16"		6	23	4	CH	Note: 22' driller notice change to harder drilling. Stopped and drove S.S. from 23-25'
				25	5		
				30	6		
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					100		

Clay: greenish gray  
(5' by 6/1) Clay w/  
little silt stiff blocky  
mass.

Drilled to 24'  
ended bore hole  
@ 1355  
hole open to  
23'

BY: Tom Porter  
DATE: 5/1/67  
CHK'D BY: [Signature]

Development  
FIELD RECORD OF WELL GAUGING, ~~PURGING AND SAMPLING~~

Site: TEAD-South Area CAMDS

Well No: CAM-1 Gauge Date: 7-15-86 Time: 0915 hrs

Weather: Sunny ~ 85-90°F

Well Condition: Well sound, 6" gravel bed 4' diameter around well protective casing, 3' protective post (steel) 4' from well.

Well Diameter (inches): 2" PVC Schedule 40 Well in 10" d.i.a. bore hole

Odor (describe): H<sub>2</sub>S background .6 ppm Headspace (well) .8  
Hand bottle sample prior to development: no product observed and no odor.

Sounding Method: 150' weight tape Measurement Reference: Top PVC casing.

Stick up/down (ft): 2.54'

(1) Well Depth (ft): 24.38' Purge Date: 7-15-86 Time: 0920

(2) Depth to Liquid (ft): 10.40' <sup>Development</sup> Purge Method: L.J. pump

(3) Depth to Water (ft): 10.40' Purge Rate (gpm): Ave. 2.93 gpm

(4) Liquid Depth [(1)-(2)]: 13.98 Purge Time (min): 40 min.

(5) Liquid Volume [(4)x(F)] (gal): Development Purge Volume (gal): 117.2

Did Well Pump Dry? Describe: No, water level draw down to 12.43' (Top of PVC). Suction line raised and lowered through entire water column.

Samplers: \_\_\_\_\_

Sampling Date: \_\_\_\_\_ Time: \_\_\_\_\_

Sample Type: \_\_\_\_\_ Split? \_\_\_\_\_ With Whom: \_\_\_\_\_

Comments and Observations: Discharge very silty at beginning.

As discharge clear up the well was surge by quickly raising and lowering suction line periodically.

At 1030 hrs. discharge visibly clear. Surged one last time. Discharge cleared at 1040 hrs. Ended development

1045 hrs.

## Well Development

Well # : CAM-1

Date well installed : 7-10-86

Development time : began 1005 hrs.  
finish 1045 hrs.

pumping rate : @ 1005 2.5 gpm  
1015 3.5 gpm  
1020 3.0 "  
1027 3.25 "  
1040 2.50 "

Static Water level : @ 7-15-86  
1000 hrs. - 10.40'

7-16-86  
0830 hrs. 10.40'

@ 1027 hrs. - 12.40'  
(during pumping)

### Well and Borehole Vol.

2" PVC well :  $13.98' \text{ (water column)} \times .1632 \text{ gal/ft.} = 2.28 \text{ gal} \times 5 = 11.4 \text{ gal.}$

Annular Vol. betw 2" Well :  $13.98' \text{ (water column)} \times (3.9 \text{ gal/ft.} \times 30\% \text{ porosity}) = 16.36 \text{ gal.} \times 5 = 81.8$   
in 10" borehole

5 x borehole 3 well vol. = 93.2 gal

### PH and Conductivity Measurements:

1000 hrs.	PH	7.44	Spec. Cond.	720
1016 hrs	"	7.71	" "	2,500
1030 hrs	"	7.86	" "	1,800
1045 hrs.	"	7.81	" "	1,800

### Well depth and screen length:

Installed  
from Log. 21.6 BLS.

### Development description:

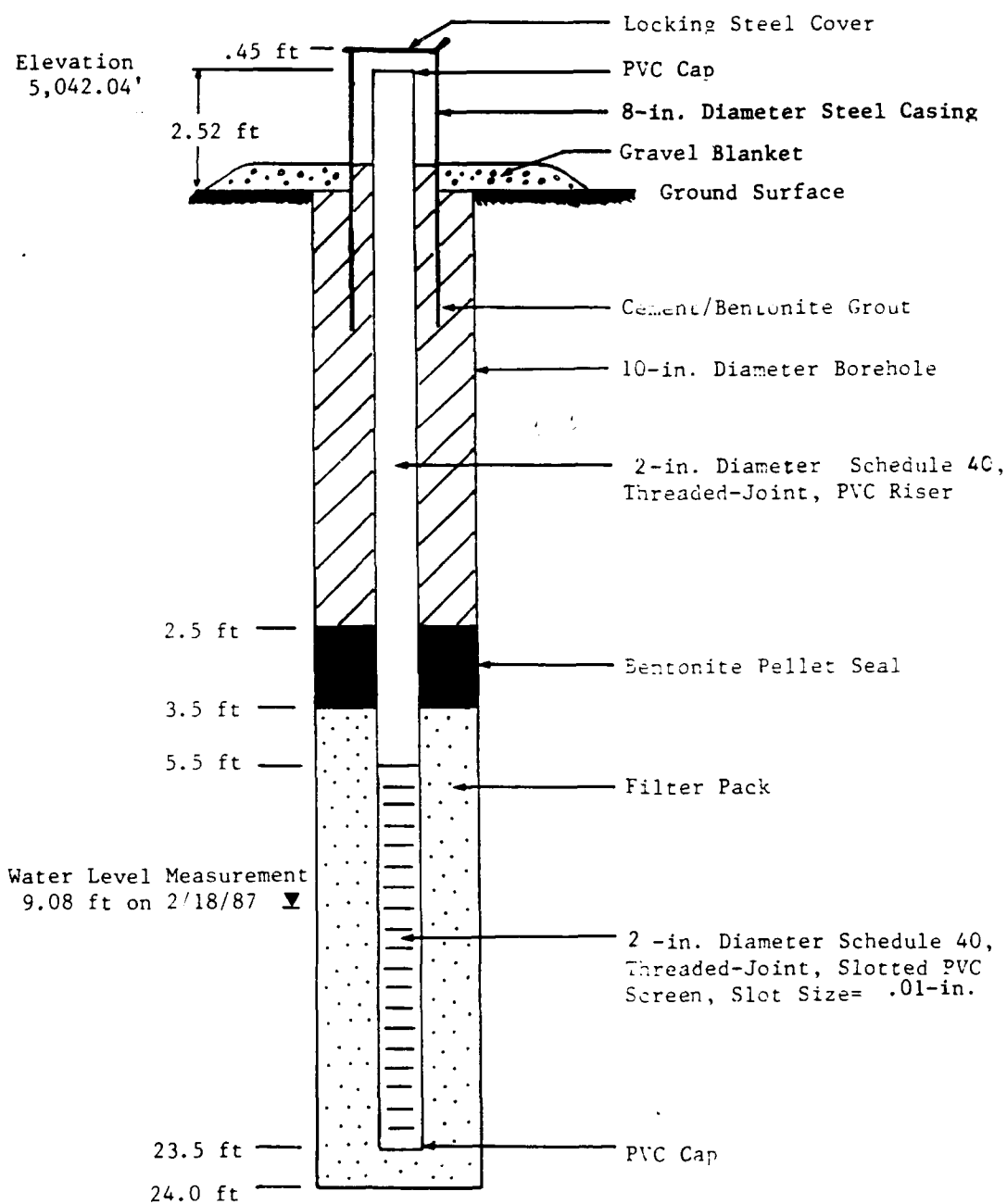
At start discharge very cloudy : surged well by  
agitating well water by quickly raising and lowering discharge  
line. After 20 mins. discharge cleared to slightly cloudy,  
at 1031 hrs. discharge visibly clear. Surged one last time  
and waited for discharge to clear. Visibly clear at  
1040 hrs. ended development @ 1045 hrs.

### Quantity of Water removed:

Aug. pumping rate 2.93 gpm x 40 mins. = 117.2 gal  
removed.

# COMPLETION DIAGRAM

## WELL CAM-2



TOOELE ARMY DEPOT, UTAH

# LEGEND

CAM-2  
Sent by Tom P.

## Particle Size Identification

Boulders	12-in. diameter or more
Cobbles	3-12-in. diameter
Gravel	Coarse 3/4-3 in. Fine 1/4-3/4 in.
Sand	Coarse 2.0-4.75 mm (dia. of pencil lead) Medium 0.425-2.0 mm (dia. of broom straw) Fine 0.074-0.425 mm (dia. of human hair)
Silt	0.005-0.074 mm (cannot see particles)

## Moisture Content

Descriptive Term	Criteria
Dry	Absence of moisture, dusty, dry to touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

## Relative Proportions

Descriptive Term	Percent
Trace	1-10
Little	11-20
Some	21-35
And	36-50

## NONCOHESIVE SOILS

(Silt, Sand, Gravel, and Combinations)

## Density

Descriptive Term	N(a)
Very Loose	5 blows/ft or less
Loose	6-10 blows/ft
Medium Dense	11-30 blows/ft
Dense	31-50 blows/ft
Very Dense	51 blows/ft or more

## COHESIVE SOILS

(Clay, Silt, and Combinations)

## Consistency

Descriptive Term	N(a)
Very Soft	3 blows/ft or less
Soft	4-5 blows/ft
Medium Stiff	6-10 blows/ft
Stiff	11-15 blows/ft
Very Stiff	16-30 blows/ft
Hard	31 blows/ft or more



EA ENGINEERING,  
SCIENCE, AND  
TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.	CLIENT	LOCATION	
THA 51C	USA THAMA	CAND 3	
DRILLING METHOD: Hollow Stem Auger		BORING NO.	
6-in I.D. 10-in O.D. CMC 75		CAM-2	
SAMPLING METHOD: Standard Spl. + Spm		SHEET	
2" Driven 24" w/ 140 162		1 of 2	
Hammer 30" Throw		DRILLING	
WATER LEVEL	8.08 8.23 8.21	START	FINISH
TIME	1430 1530 0850	TIME	TIME
DATE	7-14-86 7-15-86 7-16-86	DATE	DATE
REFERENCE	BFS. AGS. BFS.	7-14-86	7-14-86

SAMPLER TYPE	WATER LEVEL RECORD	DEPTH OF CASING	SAMPLE DEPTH BOTH	BLOWS IN SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:	REMARKS:	
6/AB			1 0-5		0		Pale yellowish Brown (10YR 6/2)		
					1	Fill	Fill: Gravelly silt. silt w/ some coarse rounded gravel trace to little sand, dry loose.	Advanced Auger to 4'. Material coming up dark brown and wet.	
					2			S.S. driven from 4-6'	
					3			1. Sample has oily feel. And odor	
				4	4	CH	Silty clay: Pale yellowish brown (10YR 6/2)	HAUL 7 ppm above background.	
SS.	24" 16"		2 1-6	4	5	CL	clay w/ some to and silt, no apparent bedding and little fine to medium sand soft. Top 10" most last 6" wet.	Note: 4-9" material coming up auger wet.	
				3	6			1. Auger set at 9' S.S. driven from 9 to 11' w/ 20" R.	
					7			Sandy clay: Top 6" Pale Brown (5YR 6/2) clay w/ some to little coarse to medium sand, little silt. of 3 ppm. wet soft.	HAUL Pick over S.S.
SS.	24" 16"		3 1-11	2 29 37	10			NOTE: Auger set at 14' S.S. driven from 14-16' w/ 19" R.	
					11			Sandy clay: Pale yellowish brown silty clay: clay w/ some to and silt, little to fine sand at 14'. dense moist.	Material coming up Auger coming up Auger
					12	CL			
					13	ML			
					14				
SS.	24" 16"		4 1-16	15 18 28	15				
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EA ENGINEERING,  
SCIENCE, AND  
TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO <b>THASIE</b>		CLIENT <b>USA THAMA</b>	LOCATION <b>CAMD TCAO-5</b>	
DRILLING METHOD:			BORING NO <b>CAM-2</b>	
SAMPLING METHOD:			SHEET <b>2 of 2</b>	
WATER LEVEL			START TIME	FINISH TIME
TIME			DATE	DATE
REFERENCE			DATE	DATE

DRILLING CONTINUED

Jim Carter

SAMPLER TYPE	WATER LEVEL	DEPTH OF CASING	SAMPLE NO.	BLOWS IN SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS
				14	20		
					1	SP	w/ some medium sand, some to little silt occasional layers of medium sand medium dense
					2		Last 6" Sand: Medium Sand w/ some fine sand, trace of silt thinly bedded
					3	ML CL	wet. medium dense
				8			note: driller notice change of drilling at 23'
				11			1. S.S. driven from 23-25'
S.S.	34"	6"	23-25	14	4	CH	Top 12" Pale brown silty clay. Clay w/ little to some silt occasional layers of sandy clay. wet.
				20	5		Advance augers to 25' hole open to 24'
					6		Bottom 12" clay greenish gray (silty 6/1) w/ little silt stiff blocky moist
					7		End drilling @ 11:00 AM
					8		
					9		
					0		
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					0		

BY: Tom Porter

DATE 5/17/02 CAMD 0800

*Development*  
FIELD RECORD OF WELL GAUGING, ~~PURGING AND SAMPLING~~

Site: TEAD-South Area CAMDS

Well No: CAM-2 Gauge Date: 7-15-86 Time: 1050 hrs.

Weather: Sunny 85-90°F

Well Condition: Well sound, 6" gravel bed 4' diameter around protective casing, 2 protective steel posts 4' from well.

Well Diameter (inches): 2" PVC schedule 40 well in 10" dia. borehole

Odor (describe): No odor, H<sub>2</sub>S .8 ppm background 2.0 ppm in well headspace

Sounding Method: weighted tape Measurement Reference: Top PVC casing

Stick up/down (ft): 2.52'

(1) Well Depth (ft): 26.02' Purge Date: 7-15-86 Time: 1155 hrs.

(2) Depth to Liquid (ft): 10.75' *Development*  
Purge Method: Rig pump (centrifugal)

(3) Depth to Water (ft): 10.75' Purge Rate (gpm): 3.15 Ave.

(4) Liquid Depth [(1)-(2)]: 15.27' Purge Time (min): 50

(5) Liquid Volume [(4)xF] (gal): \_\_\_\_\_ Purge Volume (gal): 157.50

Did Well Pump Dry? Describe: No, water drawdown to 11.87'

Suction line was raised and lowered through entire water column.

Samplers: \_\_\_\_\_

Sampling Date: \_\_\_\_\_ Time: \_\_\_\_\_

Sample Type: \_\_\_\_\_ Split? \_\_\_\_\_ With Whom: \_\_\_\_\_

Comments and Observations: Took A sample w/ a teflon hand biter before development. no odor or flushing product observed. water was slightly cloudy.

*(Comments Cont)  
next page*

## Well Development

Well # : CAM-2

Date well installed : 7-14-86

Development time : 7-15-86

Began 1055 hrs.

finished 1145 hrs.

pumping rate: @ 1055 3.5

@ 1105 3.5

1120 3.5

1130 2.75

1135 3.0

Static Water level : 7-15-86

@ 1050 hrs. 10.75'

@ 1110 hrs. 11.87' (while pumping)

7-16-86

@ 0800 hrs. 10.73'

Well and Bore hole Vol.

2" PVC well :  $15.27' \text{ (water column)} \times .1632 \text{ gal./ft} = 2.49 \times 5 = 12.46 \text{ gal.}$

Annular Vol. Bely

Well and 10" bore hole :  $15.27' \times (3.9 \text{ gal./ft} \times 30\% \text{ porosity}) = 17.86 \times 5 = 89.32$

PH and Conductivity Measurements:

10" Bore hole ? well Vol. = 101.8 gal.

Time	Ph	Spec Cond.
1050 hrs.	7.84	180
1110 hrs.	7.53	160
1135 hrs.	7.63	140
1145 hrs.	7.57	140

Well depth and screen length:

26.02' - 2.52' stickup = 23.5'

18' of 0.01' slot 2" PVC Screen.

Development description:

At beginning of development discharge very silty and sandy. during development wells were surged by raising and lowering rapidly. @ 1130 hrs. discharge ~~was~~ only cloudy less silt and sand. @ 1135 visibly clear only slightly cloudy surged one time. Discharge became visibly clear @ 1145 hrs. Stopped development.

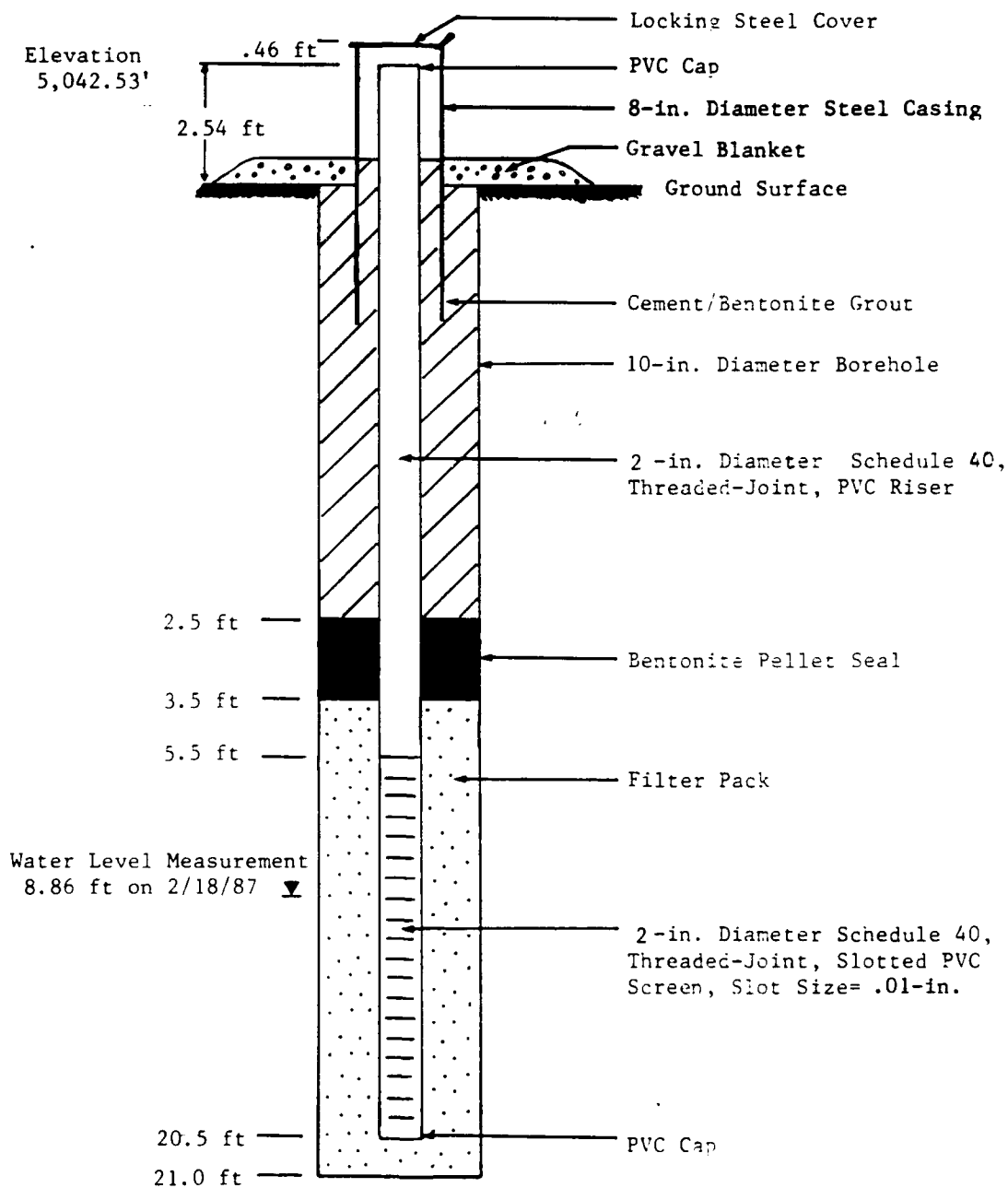
Quantity of Water removed:

Avg. pumping rate was 3.15 gpm for 50 min.

Tot. water volume removed = 957.5 gal.

# COMPLETION DIAGRAM

## WELL CAM-3



TOOELE ARMY DEPOT, UTAH

# LEGEND

CAM-3  
Sent by Tom P.

## Particle Size Identification

Boulders	12-in. diameter or more
Cobbles	3-12-in. diameter
Gravel	Coarse 3/4-3 in.
	Fine 1/4-3/4 in.
Sand	Coarse 2.0-4.75 mm (dia. of pencil lead)
	Medium 0.425-2.0 mm (dia. of broom straw)
	Fine 0.074-0.425 mm (dia. of human hair)
Silt	0.005-0.074 mm (cannot see particles)

## Moisture Content

Descriptive Term	Criteria
Dry	Absence of moisture, dusty, dry to touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

## Relative Proportions

Descriptive Term	Percent
Trace	1-10
Little	11-20
Some	21-35
And	36-50

## NONCOHESIVE SOILS

(Silt, Sand, Gravel, and Combinations)

## Density

Descriptive Term	N(a)
Very Loose	5 blows/ft or less
Loose	6-10 blows/ft
Medium Dense	11-30 blows/ft
Dense	31-50 blows/ft
Very Dense	51 blows/ft or more

## COHESIVE SOILS

(Clay, Silt, and Combinations)

## Consistency

Descriptive Term	N(a)
Very Soft	3 blows/ft or less
Soft	4-5 blows/ft
Medium Stiff	6-10 blows/ft
Stiff	11-15 blows/ft
Very Stiff	16-30 blows/ft
Hard	31 blows/ft or more

DRILLING CONTN. *Segeant, Hastings and Becker*  
*W. Mc. J. A. Carter*

BY *Tim Porter*  
 DATE *5/16/82* CHK'D BY *AP*



EA ENGINEERING,  
SCIENCE, AND  
TECHNOLOGY, INC.

LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
 Surface Elevation: \_\_\_\_\_  
 Casing Above Surface: \_\_\_\_\_  
 Reference Elevation: \_\_\_\_\_  
 Reference Description: \_\_\_\_\_

JOB NO. <b>THASIE</b>		CLIENT <b>USATHAMA</b>		LOCATION <b>CAND:</b> <b>TRAD-5</b>	
DRILLING METHOD: <b>6-in. ID. 10-in. OD. Hollow Stem Auger. CME 75 Track Mounted Drill Rig.</b>				BORING NO. <b>CAN-3</b>	
SAMPLING METHOD: <b>2" Standard Split Spoon driven 24"</b>				SHEET <b>1 of 2</b>	
W/ <b>140 163 30" diam</b>				DRILLING	
WATER LEVEL		6.42	8.40	8.26	
TIME		1730h	1155	0655	
DATE		7-14-82	7-14-82	7-14-82	
REFERENCE		B-5	B-5	B-5	
START		TIME		TIME	
1440h		150		150	
DATE		DATE		DATE	
7-14-82		7-14-82		7-14-82	

SAMPLER TYPE	WATER LEVEL	DEPTH OF CASING	SAMPLE NO.	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS	REMARKS:
					0			2" Asphalt Pale yellowish Brown (10yr 1/2)
					1	Fill		Drillers: slowly
					2			weight thrown Asphalt
					3			At 1.0' stopped
					4			drove 1.5' steel
					5			bar to check for
					6			buried utilities.
					7			did not find any.
					8			Note:
					9			Set Augers to 4'
					10			S.S. driven from
					11			4 to 6'
					12			1. HWU Kick Topp
					13			Above background of
					14			sample.
					15			2. 4-8 material
					16			coming up augers m.
					17			Note: Augers set at
					18			9'. S.S. driven
					19			from 9 to 11' w/
					20			16" R.
					21			1. HWU 12' Rpm
					22			Above background
					23			2. oily odor.
					24			Note: Augers set at
					25			14'
					26			S.S. driven from
					27			14-16' w/ 20" R
					28			clay layers and thin beds
					29			of medium sand. stiff
					30			Bottom 8" silty sand:
					31			Note:
					32			Augers advance
					33			to 19'
					34			S.S. driven 19'
					35			to medium sand w/ little
					36			silt fine clay. Wet medium 21' w/ 20" R.
					37			dense
					38			TOP 10" Sandy clay: Pale Yellowish Brown (10yr 1/2)
					39			clay w/ some to little fine
					40			to medium sand occasional
					41			layers of clayey sand. wet



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.

THASIE

CLIENT

USA THAMA

LOCATION ROAD

CANOS

DRILLING METHOD:

BORING NO.

CAN-

SHEET

2 of 2

SAMPLING METHOD:

DRILLING

START TIME

FIN TIME

WATER LEVEL

TIME

DATE

REFERENCE

DATE

DA

DRILLING CONT'D

Driller Tim Carter

BY Tom Parker

DATE 5/1/02

CHECKED BY RGP

SAMPLER TYPE  
INCHES  
RECORDED  
DEPTH OF  
CASING  
SAMPLE NO.  
BLOW/S IN.  
SAMPLER

DEPTH  
IN FEET

GRAPHIC  
LOG

SURFACE CONDITIONS:

20

1

2

3

4

5

6

7

8

9

0

1

2

3

4

5

6

7

8

9

0

1

2

3

4

5

6

7

8

9

0

CH

M. dble 6" yellowish gray medium dense  
clay w/ trace fine sand. Note:  
Last 4" greenish gray (56%) drilled drilled  
clay w/ trace silt hole to 21'  
stiff blocky moist hole open to 21'  
end boring @  
1520 hrs.

Development  
FIELD RECORD OF WELL GAUGING, PURGING AND SAMPLING

Site: TEAD - South Area CAMOS

Well No: CAM-3 Gauge Date: 7-15-86 Time: 1150 hrs.

Weather: Sunny 85-90°F

Well Condition: Well sound, grout to surface (Asphalt) 2 steel protective posts 3' from well.

Well Diameter (inches): 2" PVC schedule 40 well in 16" diameter trench

Odor (describe): HAH - 8 ppm background, 4.0 ppm Above background in well head space

Sounding Method: weight tape Measurement Reference: Top PVC casing

Stick (up/down) (ft): 2.54'

(1) Well Depth (ft): 23.02' Purge Date: 7-15-86 Time: 1155 hrs.

(2) Depth to Liquid (ft): - Purge Method: Rig pump (centrifugal)

(3) Depth to Water (ft): 10.94' Purge Rate (gpm): varied

(4) Liquid Depth [(1)-(2)]: 12.08' Purge Time (min): 56 min.

(5) Liquid Volume [(4)xF] (gal): - Purge Volume (gal): 101 gal.

Did Well Pump Dry? Describe: Well pumped down to 19.6' where pump would not draw water, it was let sit and pump repeated

Samplers: -

Sampling Date: - Time: -

Sample Type: - Split? - With Whom: -

Comments and Observations: Hand bailed a sample from well prior to development, water had a floating oily sheen and distinct oily odor. water slightly cloudy. During development product was observed on surface of discharge.

## Well Development

Well # : CAM-3

Date well installed : 7-14-86

Development time : Began 7-15-86  
1155 hrs.

finished 1337

Static Water level : 7-15-86

@ 1150 hrs: 10.94'  
@ 1400 hrs: 11.00'

7-16-86

@ 0855 hrs: 10.90'

Well and Bore hole Vol.

2" PVC well : 12.08' (water column)  $\times$  .1632 gal./ft. = 1.97  $\times$  5 = 9.85 gal.

Annular Vol. betwy  
"well in 10" borehole : 12.08' (water column)  $\times$  (3.9 gal./ft.  $\times$  30% porosity) = 14.13  $\times$  5 = 70.66

PH and Conductivity Measurements:

5' bore hole? well vol. = 80.5 gal.

Time	PH	Spec. Cond.
1155 hrs	7.84	200
1224 "	7.78	240
1324 "	7.81	180
1340 "	7.79	180

Well depth and screen length:

23.02' - 2.54' pickup = 20.48' BGS.

w/ 15' of 0.01" slot screen

Development description:

At start of development discharge very silty sandy w/  
an oily sheen on surface. Well was slow recharger and  
would have to let sit for 5-10 min. before pumping again.  
Well was surged by quickly raising and lowering suction line  
throughout water column. By 1330 hrs. well discharge  
became visibly clear. Well pumped an additional  
7 mins.

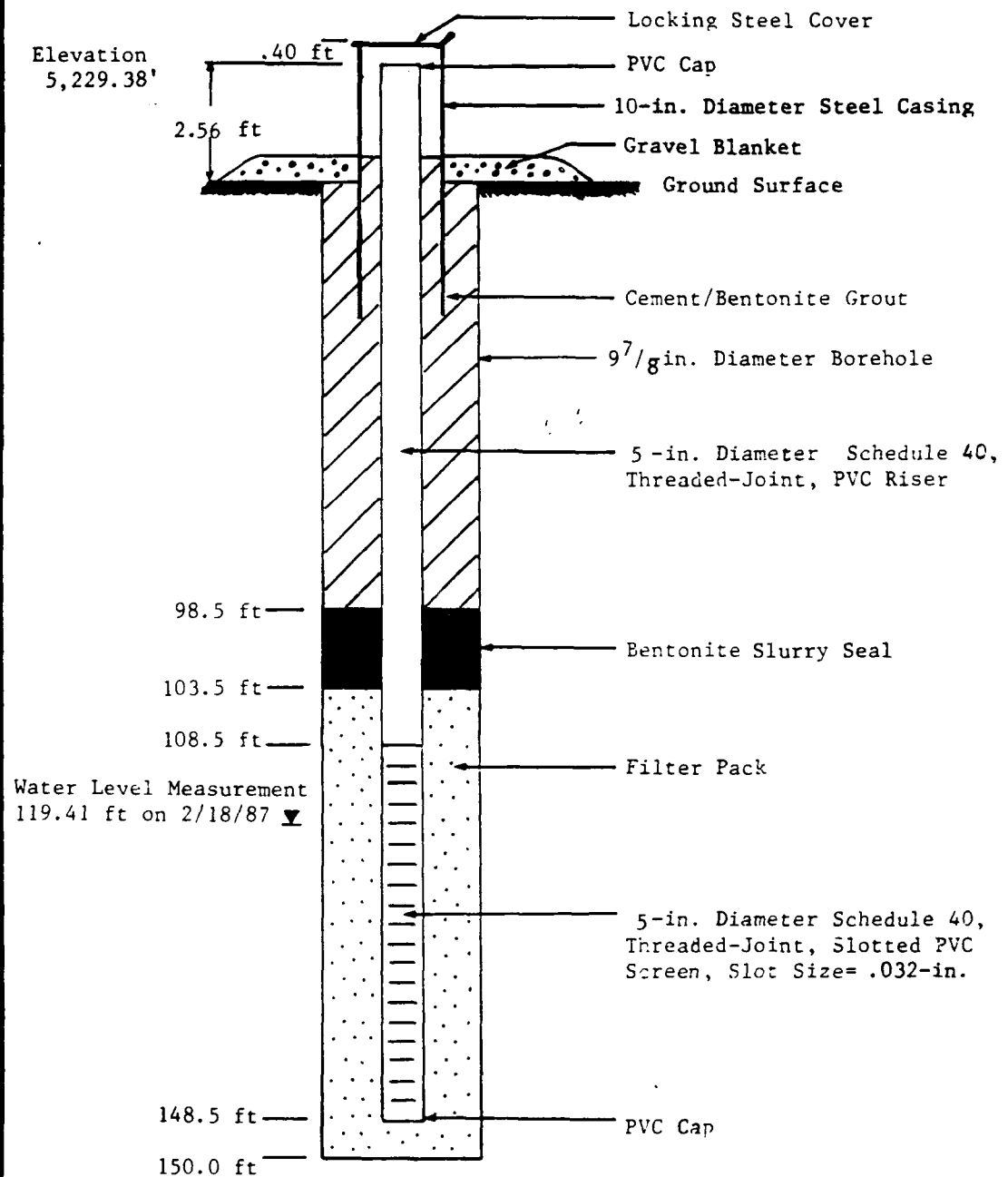
Quantity of Water removed:

6 min. @ 25 gpm = 20 gal.  
7 min. @ 2.0 gpm = 14 "  
9 min @ 2.0 gpm = 18 "  
16 min. @ 1.5 gpm = 24 "  
9 min @ 2.0 gpm = 18 "  
7 min @ 1.0 gpm = 7 "

101 gal. Tot.

# COMPLETION DIAGRAM

## WELL SBR-1



TOOELE ARMY DEPOT, UTAH

# LEGEND

SBR-1

## Particle Size Identification

Boulders	12-in. diameter or more
Cobbles	3-12-in. diameter
Gravel	Coarse 3/4-3 in. Fine 1/4-3/4 in.
Sand	Coarse 2.0-4.75 mm (dia. of pencil lead) Medium 0.425-2.0 mm (dia. of broom straw) Fine 0.074-0.425 mm (dia. of human hair)
Silt	0.005-0.074 mm (cannot see particles)

## Moisture Content

Descriptive Term	Criteria
Dry	Absence of moisture, dusty, dry to touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

## Relative Proportions

Descriptive Term	Percent
Trace	1-10
Little	11-20
Some	21-35
And	36-50

## NONCOHESIVE SOILS

(Silt, Sand, Gravel, and Combinations)

## Density

Descriptive Term	N(a)
Very Loose	5 blows/ft or less
Loose	6-10 blows/ft
Medium Dense	11-30 blows/ft
Dense	31-50 blows/ft
Very Dense	51 blows/ft or more

## COHESIVE SOILS

(Clay, Silt, and Combinations)

## Consistency

Descriptive Term	N(a)
Very Soft	3 blows/ft or less
Soft	4-5 blows/ft
Medium Stiff	6-10 blows/ft
Stiff	11-15 blows/ft
Very Stiff	16-30 blows/ft
Hard	31 blows/ft or more

DRILLING CONTINUED  
*Long Exploratory  
 Drilling Co. Inc. (Part ER72)*

BY *Andris Lapsins*  
 DATE 5-15-67 CHECKED BY *JP*



EA ENGINEERING,  
 SCIENCE AND  
 TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
 Surface Elevation: \_\_\_\_\_  
 Casing Above Surface: \_\_\_\_\_  
 Reference Elevation: \_\_\_\_\_  
 Reference Description: \_\_\_\_\_

JOB NO. <b>THA 51E</b>	CLIENT <b>USATHAMA</b>	LOCATION <b>Stock Army Dr Stock, UT</b>
DRILLING METHOD: <b>Miller D-40 K Top Drive Air Rotary w/ Sullair Air Compressor (swan type / 500 psi)</b>		BORING NO. <b>30E-1</b>
SAMPLING METHOD: <b>Cuttings from Gilson Sampler - 2 Tired</b>		SHEET <b>1 of 10</b>
WATER LEVEL <b>119.5'</b>		DRILLING START TIME <b>0800h</b> FINISH TIME <b>1021</b>
TIME <b>0800h</b>		DATE <b>7/1/66</b>
DATE <b>7/1/66</b>		DATE <b>7/1/66</b>
REFERENCE <b>LS</b>		DATE <b>7/1/66</b>

SAMPLER TYPE	INCHES RECORDED	DEPTH OF CASING	SAMPLE NO.	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
							<i>Sunny, Clear, hot; Area w/ln some in surrounding landscape; Surface cover - Sage and dry grasses</i>
					0		<i>Surface - Sandy silt, little fine gravel, dry, pink yellowish brown (in VR 1/2) Sand -&gt; fine to very fine</i>
					1		<i>1- Sandy (gravelly) silt, dry (powder like); yellowish gray (5Y 7/2)</i>
					2		<i>Note: Samples obtained are composite for interval drilled</i>
					3		<i>Color Chart - 6 SA</i>
C			1/5		4		<i>Driller indicates penet- rating clay @ 5-5.5 ft.</i>
					5		<i>Drill rod pulled</i>
					6		
					7	CL	<i>Clay on bit -&gt; firm, dense, plastic when spaced firmly, dry to moist, grayish orange (in VR 7 1/4)</i>
					8		
					9		<i>Driller reports clay to be approx. 4' thick</i>
C			2/10		10		
					11		<i>2- Sandy silt, little fine gravel, grayish orange (in VR 7 1/4) dry Sand -&gt; fine to very fine</i>
					12		<i>Dr. Entered clay layer at E. 12-13' Bl. 5</i>
					13		<i>E. 2' thick</i>
					14	CL	<i>Clay bits in cuttings from sample #3 - silty clay, firm, dense, crumbly, wet mod. plastic, mod. yellowish brown (in VR 5 1/4)</i>
C			3/15		15		
					16		<i>3- silt, little clay, dry dark yellowish orange (in VR 6 1/2)</i>
					17		
					18		<i>Dr. clay chimney @ 18' g. -&gt; gravel layer</i>
					19		
C			4/20		20		



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.

THASIE

CLIENT

USATHAM

LOCATION

TEAD-5

DRILLING METHOD:

BORING NO.

SBR-1

SHEET

2 of 10

SAMPLING METHOD:

DRILLING

START

TIME

DATE

WATER LEVEL

TIME

DATE

REFERENCE

SURFACE CONDITIONS:

SAMPLER TYPE  
INCHES  
RECORDED  
DEPTH OF  
CASING  
SAMPLE NO.  
SAMPLE  
DEPTH  
BLOWS/IN.  
SAMPLER

DEPTH  
IN FEET

GRAPHIC  
LOG

C			4/20		20
					1
					2
					3
					4
C			5/25		5
					6
					7
					8
					9
C			6/30		30
					1
					2
					3
					4
C			7/35		5
					6
					7
					8
					9
					40

4- SAND as #3

5- Sand

6- Sand

7- Same - Grayish Orange 10 ft. Fr

Enter Clay layer at 37' BLS

DRILLING CONTR  
LANG EXPLORE  
Drilling (PAT ERT)

BY  
Andris Lapins  
DATE 5-19-87 CHK'D BY TP



EA ENGINEERING,  
SCIENCE, AND  
TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.

THASIE

CLIENT

USATHAMA

LOCATION

TEAD-S

DILLING METHOD:

BORING NO

5BR-1

SHEET

3 of 10

SAMPLING METHOD:

DILLING

START FINISH

TIME TIME

WATER LEVEL

TIME

DATE

DATE

DATE

REFERENCE

SAMPLER TYPE	INCHES RECORDED	DEPTH OF CASING	SAMPLE NO	BLOWS/B IN SAMPLER	DEPTH IN FEET	GRAPHIC LOG
C	/		8/40		40	
	/				1	
	/				2	
	/				3	
	/				4	
C	/		9/45		45	
	/				6	
	/				7	
	/				8	
	/				9	
C	/		10/50		50	
	/				1	
	/				2	
	/				3	
	/				4	
C	/		11/55		55	
	/				6	
	/				7	
	/				8	
	/				9	
	/				60	

SURFACE CONDITIONS:

8- same

9- same Grayish Orange to YR 7-4  
still in clay

10- Same as above 4/20-25%  
more clay  
clay "bits" in sample -  
moderate brown (5YR 4/4)  
clay, firm, dense, dry, plastic

11- Same as above  
clay bits - light olive gray  
(5Y 6/1) in addition  
to clay as above

DRILLING CONTINUED  
De. LINT (METER)

BY: ANDRIS LAPINS  
DATE: 5-18-87 CHK'D BY: JF

DRILLING CONT'D  
 LONG EXPLORATORY  
 DRILLING (AT ETC)

BY: Andre's Lapins  
 DATE 5-18-87 CHK'D BY: TJS



# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
 Surface Elevation: \_\_\_\_\_  
 Casing Above Surface: \_\_\_\_\_  
 Reference Elevation: \_\_\_\_\_  
 Reference Description: \_\_\_\_\_

JOB NO. <b>THA SIE</b>		CLIENT <b>USATHAMA</b>		LOCATION <b>TEAD-S</b>	
DRILLING METHOD:				BORING NO. <b>SBC-1</b>	
SAMPLING METHOD:				SHEET <b>4 of 10</b>	
WATER LEVEL				START TIME	FINISH TIME
TIME				DATE	DATE
REFERENCE				DATE	DATE

SAMPLER TYPE	INCHES DEPTH RECORDED	DEPTH OF CASING	SAMPLE NO. & DEPTH	BLOWS/8 IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
C	/		12/60		0		12- same as sample No 11
	/				1		
	/				2		
	/				3	CL	
	/				4		
C	/		13/65		5		13- <del>light same as above</del> light olive gray clay, 5Y/6.5 soft plastic, moist
	/				6		
	/				7		* 1000 bls - pulling rod from hole to clean and inspect bit
	/				8	GR	Bit pulled - light olive gray clay on bit rollers, few pieces of gravel (E)
	/				9		1017 - continue drilling - Driller reports entering gravel layer @ 67' BLS
C	/		14/70		70		14- (5Y 4/1) light olive gray gravel, silty dry Enter clay layer @ 70-71' BLS
	/				1	CL	
	/				2		Enter gravel layer at 72' BLS
	/				3	GR	
	/				4		
C	/		15/75		5		15- <del>Marked as yellowish brown (10YR 5/4)</del> clay, silty; gravel, some sand, dry Villay Alluvium: alternating layers of clay & gravel from 77' to 80' BLS Gravel like appearance (limestone)
	/				6		
	/				7		
	/				8		
	/				9		
	/				80		

DRILLING LOG  
 LONG EXPLORATORY  
 DRILLING (INTERL)

BY: ANGELO LAPINS  
 DATE: 5/5/77 CHK'D BY: LF



EA ENGINEERING,  
 SCIENCE, AND  
 TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
 Surface Elevation: \_\_\_\_\_  
 Casing Above Surface: \_\_\_\_\_  
 Reference Elevation: \_\_\_\_\_  
 Reference Description: \_\_\_\_\_

JOB NO. <b>THASIE</b>		CLIENT <b>USATHAMA</b>		LOCATION <b>TEAD-5</b>	
DRILLING METHOD:				BORING NO. <b>SBR-1</b>	
SAMPLING METHOD:				SHEET <b>5 of 10</b>	
WATER LEVEL				DRILLING	
TIME				START	FINISH
DATE				TIME	TIME
REFERENCE				DATE	DATE

SAMPLER TYPE	WATER SAMPLE	DEPTH OF CASING	SAMPLE NO.	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
C	/	86	86		80		16 - Same as 15 slightly more moist
	/				1		
	/				2		
	/				3		
	/				4		
C	/	17	85		5		17 - gravel; silty-clayey, dry to moist, grayish orange to mod. yellowish brown (10 YR 6/4)
	/				6		Alternating layers of gravel & clay
	/				7		
	/				8		
	/				9		
C	/	18	80		90		18 - clay, moist, plastic, mod. yellowish brown (10 YR 5/4)
	/				1		
	/				2		
	/				3		
	/				4		
C	/	19	85		5		19 - Same as 18
	/				6		
	/				7		
	/				8		
	/				9		
	/				100		

DRILLING CONTIN *LANG EXPLORATORY  
DRILLING (P74674)*

BY *ANDREAS LAPINS*  
DATE *5-25-77* CHK'D BY *TL*



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
 Surface Elevation: \_\_\_\_\_  
 Casing Above Surface: \_\_\_\_\_  
 Reference Elevation: \_\_\_\_\_  
 Reference Description: \_\_\_\_\_

JOB NO. <i>THASIE</i>		CLIENT <i>USATHAMA</i>		LOCATION <i>TEAD-3</i>	
DRILLING METHOD:				BORING NO. <i>582-1</i>	
SAMPLING METHOD:				SHEET <i>6 of 10</i>	
WATER LEVEL				DRILLING	
TIME				START TIME	
DATE				FINISH TIME	
REFERENCE				DATE	

SAMPLER TYPE	WATER LEVEL	DEPTH OF CASING	SAMPLE NO.	BLOWS/6 IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
<i>C</i>			<i>20/100</i>		<i>100</i>		<i>20 - Silty-clayey Gravel, dry-moist; very pale orange to pale yellowish brown (10 R 7.5)</i>
					<i>1</i>		
					<i>2</i>		<i>Entered about heavy gravel at @ 102' heavy rip shinning (boulders?)</i>
					<i>3</i>		
					<i>4</i>		
<i>C</i>			<i>21/105</i>		<i>5</i>		<i>21 - Same as 20</i>
					<i>6</i>		
					<i>7</i>		
					<i>8</i>		
					<i>9</i>		
<i>C</i>			<i>22/110</i>		<i>110</i>		<i>22 - Clay, trace gravel, moist, soft plastic, very pale orange to pale yellowish brown (10 R 7.5)</i>
					<i>1</i>		
					<i>2</i>		
					<i>3</i>		
					<i>4</i>		
<i>C</i>			<i>23/115</i>		<i>5</i>		<i>23 - Same as 22</i>
					<i>6</i>		
					<i>7</i>		
					<i>8</i>		
					<i>9</i>		
					<i>10</i>		
					<i>11</i>		
					<i>12</i>		
					<i>13</i>		
					<i>14</i>		
					<i>15</i>		
					<i>16</i>		
					<i>17</i>		
					<i>18</i>		
					<i>19</i>		
					<i>20</i>		

DRILLING CONTINUED LANG EXPLORATORY  
DRILLING (PAT EXTC)

BY ANDRE'S LAPINS  
DATE 5/8/11 CINDY BY TH



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SCIENCE, AND  
TECHNOLOGY, INC.

# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
Surface Elevation: \_\_\_\_\_  
Casing Above Surface: \_\_\_\_\_  
Reference Elevation: \_\_\_\_\_  
Reference Description: \_\_\_\_\_

JOB NO. <b>THA SIE</b>		CLIENT <b>USATHAMA</b>		LOCATION <b>TEAP-3</b>	
DRILLING METHOD:				BORING NO. <b>5BR-1</b>	
SAMPLING METHOD:				SHEET <b>7 of 10</b>	
WATER LEVEL				DRILLING	
TIME				START	FINISH
DATE				TIME	TIME
REFERENCE				DATE	DATE

SAMPLER TYPE	WATER BORING RECORDING	DEPTH OF CASING	SAMPLE DEPTH	BLOWS/6 IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
C	/		24/120		120		24- Same as 23-22
	/				1		
	/				2		
	/				3		
	/				4		
C	/		25/125		5		25- <del>clay</del> Clay, some gravel, dry mod. yellowish brown (to yr 5/4)
	/				6		
	/				7		
	/				8		
	/				9		
C	/		26/130		130		26- Same as 25
	/				1		
	/				2		
	/				3		
	/				4		
C	/		27/135		5		27- Clay and gravel, dry, very pale orange to pale yellowish brown (to yr 7/2)
	/				6		
	/				7		
	/				8		
	/				9		
	/				10		

DRILLING CONT'D  
LANG EXPLORATORY  
DRILLING (PAT 6612)

BY ANDRIS LAPINS

DATE 5-25-87 CHK'D BY 11



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_  
 Surface Elevation: \_\_\_\_\_  
 Casing Above Surface: \_\_\_\_\_  
 Reference Elevation: \_\_\_\_\_  
 Reference Description: \_\_\_\_\_

JOB NO. <b>THASIE</b>		CLIENT <b>USATHAMA</b>		LOCATION <b>TEAD-5</b>	
DRILLING METHOD:				BORING NO. <b>5BR-1</b>	
SAMPLING METHOD:				SHEET <b>8 of 10</b>	
WATER LEVEL				START TIME	FINISH TIME
TIME				DATE	DATE
REFERENCE				DATE	DATE

SAMPLER TYPE	INCHES RECORDED	DEPTH OF CASING	SAMPLE NO. DEPTH	BLOWS/S.F. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
C	/		28/ 140		146		28 - Clay, moist to wet, soft, plastic, grayish orange (10 YR 7/4)
	/				1		
	/				2		
	/				3		
	/				4		
C	/		29/ 145		5		29 - Clay, soft, moist, plastic, very pale orange to pale yellowish brown (10 YR 7/2)
	/				6		
	/				7		
	/				8		
	/				9		
C	/		30/ 150		150		30 - Clay, soft, moist, pale yellowish brown (10 YR 6/4)
	/				1		
	/				2		
	/				3		
	/				4		
C	/		31/ 155		5		31 - Same as 29
	/				6		
	/				7		
	/				8		
	/				9		
	/				10		
	/				11		
	/				12		
	/				13		
	/				14		
	/				15		
	/				16		

DRILLING CONTIN LANG EXPLORATORY  
DELLINO (PATENT)

BY ANDRIS LAPINS  
DATE 5-15-17 CHECKED BY TY



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO. <u>THASIE</u>		CLIENT <u>USATHAMA</u>		LOCATION <u>TEAD-S</u>	
DRILLING METHOD:				BORING NO. <u>5BC-1</u>	
SAMPLING METHOD:				SHEET <u>9 of 10</u>	
WATER LEVEL				START TIME	FINISH TIME
TIME				DATE	DATE
REFERENCE				DATE	DATE

SAMPLER TYPE	WATER LEVEL RECORD	DEPTH OF CASING	SAMPLE DEPTH	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
C	/		32 160		160		32 - Clay, moist, soft, plastic, dark yellowish brown (10 YR 4/5)
C	/		33 165		5		33 - Same as 32
C	/		34 170		170		34 - Same moderate yellowish brown (10 YR 5/5)
C	/		35 175		175		at c 172' BLS - water coming up drill stem / hole annulus
C	/				6		35 - Clay, silty, firm, moist-dry yellowish gray (5 Y 8/1)
	/				7		Rig shut down to allow water to stabilize for measurement
	/				8		After c 1 1/2 hour several attempts to obtain water level measurement fail due to wire line sticking to clays when inner tube



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.

THASIE

CLIENT

USATHAMA

LOCATION

TEAD-S

DRILLING METHOD:

BORING NO.

SBR-1

SHEET

10 of 10

SAMPLING METHOD:

DRILLING

START

FINISH

WATER LEVEL

TIME

DATE

REFERENCE

DATE

DATE

SAMPLER TYPE	WALL THICKNESS	DEPTH OF CASING	SAMPLE NO.	SAMPLE SIZE	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG
						0	
						1	
						2	
						3	
						4	
						5	
						6	
						7	
						8	
						9	
						0	
						1	
						2	
						3	
						4	
						5	
						6	
						7	
						8	
						9	
						0	

SURFACE CONDITIONS:

~~Reported to be a very hard clay~~

Reconnect Drill Stem to blow air / water through inner stem to flush clays clean

- Blow did not work

- Departed site to obtain alternate water level indicator (RED) check on progress of other rig / place phone calls

@ 3 hrs after last attempt at obtaining level measurement -> water level at 119.5' BLS

Bore hole abandoned -> grouted to land surface

Grouting completed by injecting grout through in-place drill stems

Core for Type I-II cement - 25 bags Quick Gel Bentonite -> 50 lbs.

7/2/86

Grout checked for settlement - settled to 5' BLS

"Topped off" with grout to land surface following set casing installation for monitoring well (25-30' NE of boring)

DRILLING CONTINUED  
LOGS EXPLORATORY  
DRILLING (LAT ECT)

BY ANDREIS LAPINS

DATE 5/1/87 CHECKED BY



EA ENGINEERING,  
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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.

THA 51E

CLIENT

USATHAMA

SOUTH AKE.  
FOOLEE ARM.

DRILLING METHOD: DRILL TECH D-40 K

TOP DRIVE - MUD ROTARY

TRUCK-MOUNTED 9 3/4" DRILL BIT

SAMPLING METHOD: CUTTINGS FROM

EXHAUST SHAKER

BORING NO.

SBR-1

SHEET

1 of 8

DRILLING

START

TIME

0900

FINIS

TIME

1000

WATER LEVEL

TIME

DATE

REFERENCE

LS

DATE

7-8-86

DATE

7-8-86

SURFACE CONDITIONS:

SUNNY TO S. GRASSY SAGE/DR.

AREA; JUST OFF RT. GRAVEL ROAD

SAMPLER TYPE	WATER LEVEL	DEPTH OF CASING	SAMPLE DEPTH	BLOW/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG
					0	
					1	
					2	
					3	
					4	
					5	
					6	
					7	
					8	
					9	
					10	
					11	
					12	
					13	
					14	
					15	
					16	
					17	
					18	
					19	
					20	ML

Note: Well boring SBR-1 was moved 25 ft. in an up-gradient direction from pilot hole SBR-1 (drilled 7-1-86). Refer to pilot hole log for detailed log.

## REMARKS:

10" STEEL CASING  
ALREADY INSTALLED  
10' FEET INTO  
GROUND V. 2.5 SU.

\* 1ST 80' OF  
SOILS SAMPLED  
IN WELL-LOG  
REMOVED FROM  
LOG.

\* NOTE: ALL  
SAMPLE CUTTINGS  
SATURATED FROM  
USE OF MUD  
ROTARY.

NO SAMPLE AVAIL.  
TILL 20' CAUSE  
STABILIZER USED  
(20' LENGTH) & CHU  
NOT ATTACHED TO  
STABILIZER IN  
GROUND

1ST SAMPLE AVAILABLE  
WHEN DRILL BIT  
ADVANCED TO 20

DUSKY-YELLOW SY, YL,  
SILT + CLAY MIXTURE,  
TRACE F. SAND (<5%)  
SLIGHTLY PLASTIC

CAN ROLL SAMPLE

DRILLING CONTR. LANG. DRILLING -  
PAT. ECTL

BY JOHN KOSLOSKI

DATE \_\_\_\_\_ CHG. D. BY \_\_\_\_\_

CUTTINGS

C

200



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.		COUNT	
DRILLING METHOD		BORING NO.	
		5BR-1	
		SHEET	
		2 of 8	
SAMPLING METHOD		DRILLING	
		START TIME	
WATER LEVEL		FINISH TIME	
TIME		DATE	
DATE		DATE	
REFERENCE			

DRILLING CONTR.

BY \_\_\_\_\_  
DATE \_\_\_\_\_  
CHK'D BY \_\_\_\_\_

SAMPLER TYPE	WORK'S DEPTH RECORD	DEPTH OF CASING	SAMPLE NO. & DEPTH	BLOWS IN SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
					20		
					21		GRADES TO LESS CLAY
					2		
					3		
					4		
C			2/250		5	ML	MODERATE YELL-BR 10 YR 5/4 SILT 10% WITH SOME CLAY & TRACE F SAND (25%)
					6		
					7		
					8		
					29		GRADES TO MORE CLAY
C			3/300		30	ML	MOD. YELL-BR 10 YR 5/4 CAN ROLL SAMPLE #3 SILT + CLAY MIXTURE W. TRACE F SAND (25%) MODERATELY PLASTIC
					1		DRILLERS DID NOT HAVE ENOUGH SAMPLE CONTAINERS AVAILAB. SO SAMPLES SPREAD EVENLY ACROSS BORE WITH AVAILABLE CONTAINERS FOR REMAINDER OF DRILL CUTTINGS MONITORED.
					2		
					3		
					4		
					5		
					6		
					7		DRILL CUTTINGS INDICATE MORE CLAY
					8		
					39		
					40		



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

DRILLING METHOD

BORING NO

5BR-1

SHEET

3 of 8

SAMPLING METHOD

DRILLING

START

FINISH

TIME

TIME

WATER LEVEL

TIME

DATE

REFERENCE

DATE

DATE

SURFACE CONDITIONS:

DRILLING CONTR

BY \_\_\_\_\_  
DATE \_\_\_\_\_  
CHK'D BY \_\_\_\_\_

SAMPLER TYPE	WATER LEVEL	DEPTH OF CASING	SAMPLE NO	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS
C			4 10.2		40	ML	MODERATE, YELL-BL 10 PR. 5/4 SILT & CLAY MIXTURE W TRACE F. SAND (25%) STICKY & MODERATELY PLASTIC
					1		SAMPLE CAN BE ROLLED
					2		
					3		
					4		
					5		
					6		
					7		
					8		GRADES TO LESS CLAY
					49		
C			5 5.0		50	ML	S.A. (SAME AS ABOVE)
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					59		
					60		



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.

DATE

DRILLING METHOD

BORING NO

5BR-1

SHEET

7 of 8

SAMPLING METHOD

DRILLING

WATER LEVEL

TIME

DATE

REFERENCE

START TIME

FINISH TIME

DATE

DATE

DRILLING CONTR.

BY \_\_\_\_\_ DATE \_\_\_\_\_

CHK'D BY \_\_\_\_\_

SAMPLER TYPE	WATER LEVEL	DEPTH OF CASING	SAMPLE NO.	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS
					60		
					1	ML	1030 HRS AT 60.0
					2		150 GAL MUD LAB
					3		INTO FORMATION (
					4		1100 HRS; STOPPED
					5		DRILLING AT 65.0
					6		TO AWAIT WATER
					7		TANK.
					8		1300 RESUMED DRILLING
					9		
					10		GRADES TO MORE
					11		CLAY
					12		(MORE DISTINCT
					13		GRADATION TO
					14		CLAY = 67% THAT
					15		IN PREVIOUS S
					16		
					17		
					18		
					19		
					20		
					21		
					22		
					23		
					24		
					25		
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					30		
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					89		
					90		
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					94		
					95		
					96		
					97		
					98		
					99		
					100		



**Co-ordinates:** \_\_\_\_\_

**Surface Elevation:** \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

**Reference Description:** \_\_\_\_\_

**100 NO**

11/11/11

1400000

### DRILLING METHOD.

**BORING NO**

502-1

**WEEV**

5.8

## DRILLING

START	FINISH
-------	--------

TIME	TIME
------	------

**WATER LEVEL**

**TIME**

DATE \_\_\_\_\_

## REFERENCE

DATE	DATE
------	------

DATE	DATE
------	------

## MAILING CONTAINER

DATE \_\_\_\_\_ JAN 10 1953

Y.

SAMPLER TYPE	WATER DEPTH	DEPTH OF CASING	SAMPLE NO	BLOWS/G IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS
C			7		80	G17	LIGHT OLIVE-BR. 5Y 5/6 GRAVEL WITH SOME F. SAND (10%) SOME CLAY (10%) SOME SILT (10%) UNCUT PORTION OF SAMPLE SHOW SUB-A TO SUB-ROU FINE GRAVEL PROBABLY FLUVIAL DEP.'S
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					89		
C			8		90	G18	S.R. BUT MUCH MORE SILT & CLAY IN SAMPLE (S+C=40%)
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					99		
					100		



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

DRILLING METHOD

BORING NO.

5BR-1

SHEET

6 of 8

SAMPLING METHOD

DRILLING

WATER LEVEL

START

FIN

TIME

TIME

TH

DATE

DATE

DA

REFERENCE

DRILLING CONTR.

BY \_\_\_\_\_  
DATE \_\_\_\_\_  
CIN O BY \_\_\_\_\_

SAMPLER TYPE	NOTES HOLE REMARKS	DEPTH OF CASING	SAMPLE NO.	BLOWS/6 IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS:
					0		
					1		
					2	Gm	
					3		
					4		
					5		
					6		GRADES TO LESS GRAVEL
					7		
					8		
					9		
					10		
C			9 H.C.		10	ML	DUSKY-YELLOW, 5Y 6/4, SILT + CLAY MIXTURE w. 10% F. GRAVEL SLIGHTLY PLASTIC & GUMMY
					1		LOST 750 MORE GAL MUD INTO FORMATION, TOTAL GAL LOST = 900
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					10		
					11		
					12		
					13		
					14		
					15		
					16		
					17		
					18		
					19		
					20		



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO

CLIENT

LOCATION

DRILLING METHOD:

BORING NO

SDP-1

SHEET

7 of 8

SAMPLING METHOD

DRILLING

WATER LEVEL

START

FINISH

TIME

TIME

TIME

DATE

DATE

DATE

REFERENCE

DRILLING CONTR

SAMPLER  
TYPE

INCHES  
DOWN  
RECORDED

DEPTH OF  
CASING

INCHES  
DOWN  
RECORDED

BLOWS IN  
SAMPLER

DEPTH  
IN FEET

GRAPHIC  
LOG

SURFACE CONDITIONS:

BY \_\_\_\_\_

DATE \_\_\_\_\_

CHECKED BY \_\_\_\_\_

C

10  
13

20

30

ML

DUSKY-YELLOW, 5Y 6/4  
SILT+CLAY MIXTURE  
WITH 30% F. GRAVEL

DRILLING  
PROCEEDING  
SMOOTHLY.



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# LOG OF SOIL BORING

Co-ordinates: \_\_\_\_\_

Surface Elevation: \_\_\_\_\_

Casing Above Surface: \_\_\_\_\_

Reference Elevation: \_\_\_\_\_

Reference Description: \_\_\_\_\_

JOB NO.		CLIENT		LOCATION	
DRILLING METHOD				BORING NO. 522-1	
SAMPLING METHOD				SHEET 8 of 8	
WATER LEVEL				DRILLING	
TIME				START TIME	FINISH TIME
DATE				DATE	DATE
REFERENCE					

DRILLING CONTIN

BY \_\_\_\_\_  
DATE \_\_\_\_\_  
CHECKED BY \_\_\_\_\_

SAMPLER TYPE	INCHES DEPTH RECEIVED	DEPTH OF CASING	SAMPLE NO.	BLOWS/IN. SAMPLER	DEPTH IN FEET	GRAPHIC LOG	SURFACE CONDITIONS
					140		
					1		
					2		
					3		
					4		
					5		
					6		
					7		7/8"
					8		BOREHOLE COMPLETED
					9		TO 150.0' BLS, 1600'
					10		WAITED TILL 18:45
					11		MRS FOR WATER
					12		TRUCK TO ARRIVE.
					13		MUD IN HOLE
					14		THINNED OUT W.
					15		WATER BY 1930 HRS
					16		50' DOWN-HOLE
					17		GEOPHYSICAL LOGGING
					18		COULD BE PERFORMED
					19		HOLE LOGGED FOR
					20		GAMMA RAY, RESIST
					21		& ELECTRIC POTENT.
					22		HOLE COVERED
					23		NEXT DAY: 0700 HRS
					24		(7/9/86)
					25		SCHEDULE 80' M.
					26		(32 SLOT) SET AS
					27		SHOWN IN WELL
					28		DIAGRAM:
					29		40' SCREEN 148.5-
					30		108.5' (LOST 1.5' HOPE
					31		RISER - 12.3' ALS.
					32		6 X 9 CSSI SAND PK
					33		148.5' - 103.5'

BENTONITE SLURRY (QUICK-GEL  $\frac{3}{4}$  bag) + 15 GAL WATER) FROM 103.5-98.5'

PORTLAND CEMENT FROM 98.5'  $\rightarrow$  LS (1 bag cement: 10 GAL WATER  
5% BENT POWDER)

ALL SAND, BENT, + CEMENT TREMIED W.  $1\frac{1}{2}$ " TREM. PIPE

CENTRALIZERS INSTALLED ON PVC AT 100.0' + 10.0'  
(18")

TO SPACE SCREEN + RISE  
FROM INSIDE WALL OF BUREL  
BEFORE TREMIING SAND, BENT  
CEM.

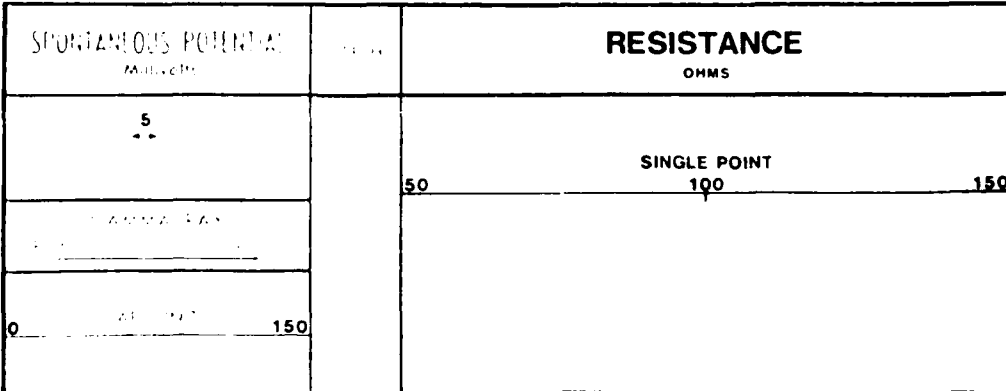
NO WATER TABLE INFORMATION COULD BE DETERMINED  
DUE TO MUD ROTARY, HOWEVER SCREENING INSTALLED  
BASED ON TEST BOREHOLE SBR-1 WHICH INDICATED  
STATIC WATER AT 119.5'.



# SINGLE POINT RESISTANCE WITH S.P. AND GAMMA RAY

FILE NO. 60068	COMPANY EA SCIENCE A TECHNOLOGY	
WELL ARR-1	FIELD TOOELE SOUTH DEPT UPGRADIENT AREA	
COUNTY TOOELE	STATE UTAH	Other Services NONE
LOCATION BASE COORD. - 4996.60' N. A 18253.08' E. STATE PLANE - Y 729974.60 COORD. - X 1759763.94 SEC TWP RGE		
Permanent Datum TOP OF CASING	Elev 5229.78	Ab N/A
Log Measured from G.L.	N/A	Of 5229.78
Drilling Measured from G.L.	ft Above Permanent Datum	
Date 07/08/86		
Run No ONE		
Depth-Driller 150		
Depth-Logger 149		
Bottom Logged Interval 149		
Top Logged Interval 4		
Casing-Driller 10"		
Casing-Logger 11"		
Bit Size 9 7/8"		
Type fluid in Hole GULF GEL		
Density and Viscosity N/A	N/A	
pH and fluid loss N/A	N/A	
Source of Sample N/A		
Rm @ Meas Temp N/A		
Rmt @ Meas Temp N/A		
Rmt @ Meas Temp N/A		
Source of Rmt and Rmt N/A		
Rm @ BHT N/A		
Time Since Circ -5 HR.		
Max Rec Temp Deg F N/A		
Temp No and location 105	SIC	
Recorded By R. McDONALD		
Witnessed By MR. KOSLOSKI		

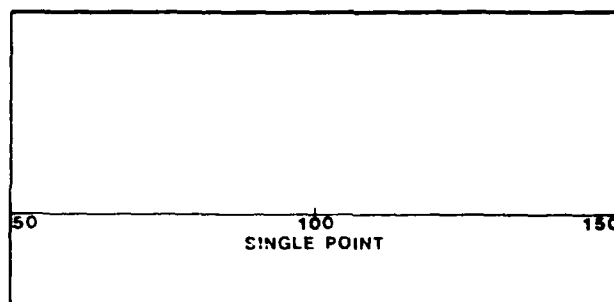
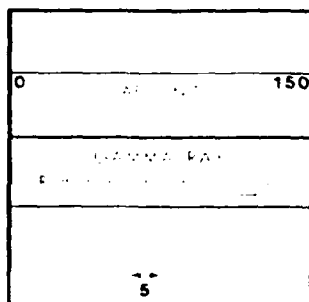
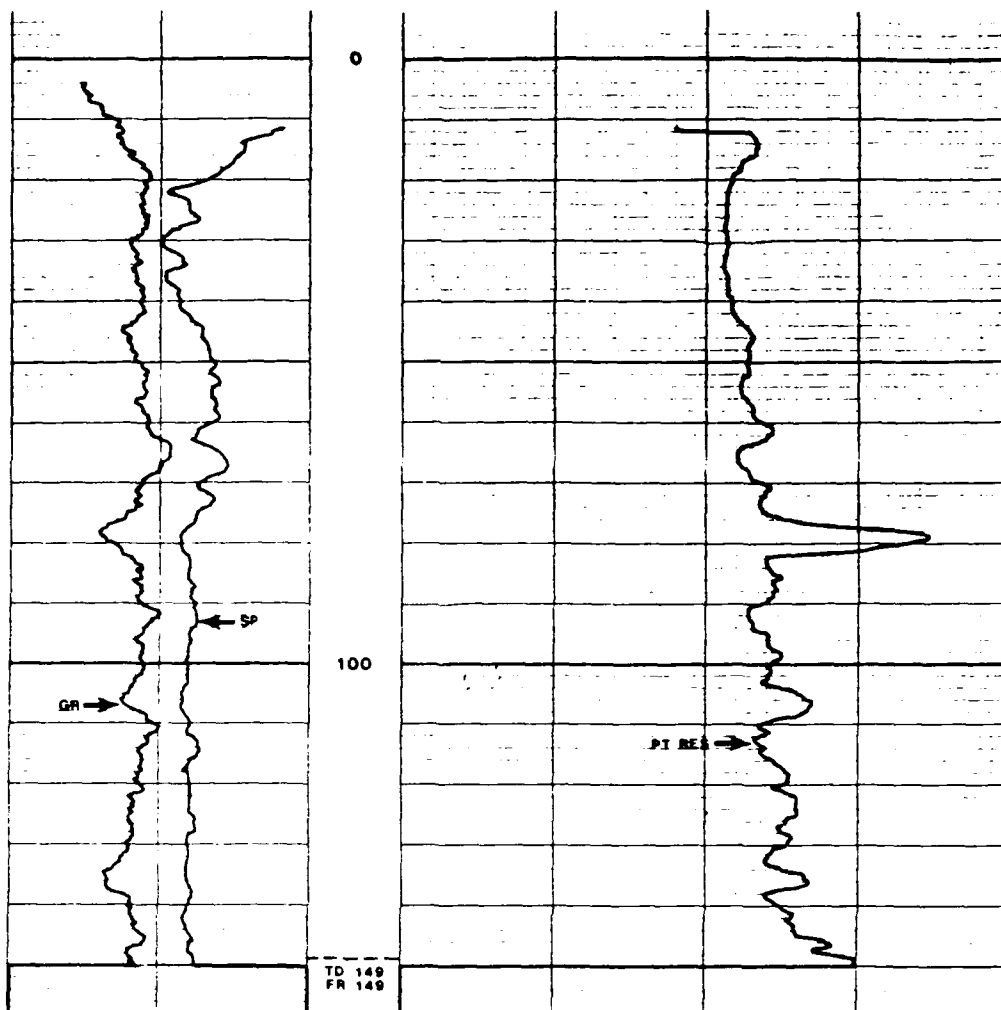
Gamma Ray				Equipment Data			
Run No	ONE			Run No			
Tool Model No	9256M			Log Type			
Serial No	G27X4LD37			Tool Model No			
Diam	1 3/4 IN.			Diam			
Detect Model No	S-14			Serial No			
Type	SCINT.			Detect Type			
Length	4 IN.			Length			
Dist to Source	N/A			Source Model No.			
General				Logging Data			
Hoist Truck No	103			Serial No			
Auxiliary Equipment				Spacing			
				Type			
				Strength			
Gamma Ray				Logging Data			
Run No	ONE			Serial No			
Depth	4	149	20	Zero Div L or R	6		
Speed F/Min	20			API GR Units Per Log Div	15		
T/C Sec	3			T/C Sec			
Sens Settings	40			Sens Settings			
				Zero Div L or R			
				API N Units Per Log Div			
Remarks							



5' - 100'  
MATCH LIN A'

MATCH W/ LINE A'

8" = 100'



SPONTANEOUS POTENTIAL Millivolts		RESISTANCE OHMS	
Company	EA SCIENCE, ENG., & TECH., INC.	Drillers T D	150
Well	SBR - 1	Log F R	149
Field	TOOELE SO. DEPOT UPGRADE AREA	Log T D	149
County	TOOELE	Elevations	
State	UTAH	K B	D F
		G L	5229.78

*Development*  
FIELD RECORD OF WELL GAUGING, PURGING AND SAMPLING

Site: TEAD - South AREA

Well No: 5BR-1 Gauge Date: 7-16-86 Time: 0930 hrs.

Weather: Sunny ~ 90°F

Well Condition: Found cement collar, gravel around casing, 4 posts and fence. Locking cap.

Well Diameter (inches): 5" PVC well in 9 7/8" Bore Hole.

Odor (describe): None

Sounding Method: Waited Tape Measurement Reference: TOP PVC

Stick up/down (ft): 2.02'

(1) Well Depth (ft): 150.82' Purge Date: 7-15-86 Time: 1500 hrs  
7-31-86 1050 hrs.

(2) Depth to Liquid (ft): 122.2 Purge Method: Bailing w/ 3" x 10' PVC

(3) Depth to Water (ft): - Purge Rate (gpm): Varied and pump: 4" Grampus Sub. pump

(4) Liquid Depth [(1)-(2)]: 28.3' Purge Time (min): 7 hrs.

(5) Liquid Volume [(4)xF] (gal): 260.6 Purge Volume (gal): 313 gals.  
(5 x bore hole and well volume)

Did Well Pump Dry? Describe: Yes, during purging w/ pump.

well would pump down to bottom. And recharge fairly slowly well would be allowed to recharge and pumped again.

Samplers: \_\_\_\_\_

Sampling Date: \_\_\_\_\_ Time: \_\_\_\_\_

Sample Type: \_\_\_\_\_ Split? \_\_\_\_\_ With Whom: \_\_\_\_\_

Comments and Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

## Well Development

Well #: SBR-1

Date Well Installed: 7-8-86

Development Time:

7-15-86 : 1500 hrs - 1700 hrs.

7-31-86 : 1050 hrs - 1530 hrs.

Static Water Level:

7-16-86

@ 0930 hrs. 122.2'

7-31-86

@ 1035 hrs. 122.4'

Well And Borehole Vol.

5" PVC well: 28.3' (water column)  $\times$  1.02 gal./ft. = 28.87 gal  $\times$  5 = 144.3 gal.

Annular Vol. Bch.

5" PVC well and : 28.3' (water column)  $\times$  (2.74 gal./ft.  $\times$  30% porosity) = 23.3 gal.  $\times$  5 = 116.3 gal.

97% O.H.

PH And Spec. Conductivity:

7-31-86	Time	PH	Spec. Cond.	Time	PH	Spec. Cond.
	1105	8.73	480			
	1405	8.45	440	1450	7.53	380
	1425	7.58	380	1510	7.51	396

5" x borehole and well vol. 260.

Well Depth And Screen Length:

150.02' w/ 2.02' stickup (PVC casing)

40' of well screen

Development Description:

on 7-15-86 w.c. in well was @ ~ 92' Mud in well very thin clumps of bentonite coming out of well. After bailing 70 gal. w.c. was at 143' and discharge becoming thinner & silty. Bailed no more gals. 7-31-86 Started bailing well discharge silty w/ fine sand after 68 gal. discharge was only slightly cloudy. Installed 4" pump. Pumped well down real fast. silty w/ sand. Well not a fast recharger. Would pump and have to stop to let well settle.

Quantity of Water Removed:

7-15-86 - bailed 90 gals.

7-31-86 - " 68 gals.

pump 155 gals.

tot. 313 gal.

After pumping for 15 hrs. discharge became visibly clear.

APPENDIX II-C  
FIELD SURVEYING DATA



Received 2/23/87 LKM  
**FORSGREN-PERKINS ENGINEERING**

OWNER-PROJECT EIA SCIENCE	BY DJF	DATE 2-13-87	PROJECT NO. 863110
FEATURE T.A.D. WELL SITES	CHK'D BY	DATE	SHEET OF

South Area

X = E-W Coordinates  
Y = N-S Coordinates

U.S.G.S.  
"MORGAN"

LAMBERT PCGP

X ? 4,302.000000  
Y ? 1,740,486.800  
LAT. = 752,574.700  
40.00000  
23.00000  
44.90275  
LONG. = 112.00000  
25.00000  
54.25356  
MAP ANGLE = 0.00  
-35.00  
-48.66  
SCALE FACT. = 0.9999467

CAM 2

LAMBERT PCGP

X ? 4,302.000000  
Y ? 1,758,116.120  
LAT. = 712,746.420  
40.00000  
17.00000  
13.06997  
LONG. = 112.00000  
22.00000  
1.41636  
MAP ANGLE = 0.00  
-33.00  
-19.51  
SCALE FACT. = 0.9999295

CAM 3

LAMBERT PCGP

X ? 4,302.000000  
Y ? 1,758,186.490  
LAT. = 712,673.640  
40.00000  
17.00000  
12.35753  
LONG. = 112.00000  
22.00000  
0.49908  
MAP ANGLE = 0.00  
-33.00  
-18.92  
SCALE FACT. = 0.9999299

CAM 1

LAMBERT PCGP

X ? 4,302.000000  
Y ? 1,758,154.470  
LAT. = 712,571.000  
40.00000  
17.00000  
11.34010  
LONG. = 112.00000  
22.00000  
0.89940  
MAP ANGLE = 0.00  
-33.00  
-19.10  
SCALE FACT. = 0.9999298

PEZONATEL

LAMBERT PCGP

X ? 4,302.000000  
Y ? 1,758,049.490  
LAT. = 712,387.720  
40.00000  
17.00000  
9.51882  
LONG. = 112.00000  
22.00000  
2.23104  
MAP ANGLE = 0.00  
-33.00  
-20.07  
SCALE FACT. = 0.9999297

S-1

LAMBERT PCGP

X ? 4,302.000000  
Y ? 1,758,346.570  
LAT. = 711,636.530  
40.00000  
17.00000  
2.12388  
LONG. = 112.00000  
21.00000  
58.30380  
MAP ANGLE = 0.00  
-33.00  
-17.52  
SCALE FACT. = 0.9999295

SOUTH AREA SURVEY CONTROL  
 FOUND REMNENTS OF MON 1900 (4th CONC POST)  
 TVS NORTH ON COMMUNIST HEADQUARTERS FOUND  
 REMNENTS OF MON AT 1900 1VS WEST  
 FOUND CONC POST W/ SURVEY PIN EM 288  
 EL. 5042 04 - 240 DETACHED TVS WEST TO 1200  
 1004 AM 289 EL. 5039 13 CAPTURED 2400  
 TO 1300 FOUND BM 249 EL 5037 53 INITIAL  
 TOP OF MON CONC RECONSTRUCT MON BM  
 289 AND CHECK EL W/ BU 249  
 BM 289 5039 93  
 ILC - 502  
 ILC EL 5040 34  
 + 5040 17 1  
 BU 249 5037 54 LIST 5037 53  
 WILL USE BM 249 FOR VERT CONTROL  
 WILL USE 449 FOOT AT 1200 289 5  
 BM 249 BASIS OF BEARING FOR 16012  
 CONTROL  
 CO-OP & SHOWN ARE FROM DRAWING  
 OBTAINED FROM AT TOPELE  
 ARMY DEPOT ENGR OFFICE DRAWING #  
 SD 3-101 FILE # 63-17

# **SOUTH AREA**

## SURVEY RESULTS

STA	NORTHING	EASTING	ELEV.
CAM-1	32590 19	13596 00	5041 45
CAM-2	32765 68	13557 15	5042 04
CAM-3	32692 11	13628 20	5042 53
PEROMETER (H.C.)	32401 07	13490 48	5037 12 (GROUND TO TOP PIC.)
S-1	31655 11	13786 23	5036 08
SBR-1	49960 40	15253 08	5229 18 (TOP METAL CASING)

9/12/06

KCUT

NEFF

HOT & WINDY

**APPENDIX II-D**  
**WELL PURGING LOGS**

WATER QUALITY SAMPLING FIELD REPORT

TOOELE ARMY DEPOT

TOOELE, UTAH

FIRST QUARTER, 1987

## GROUND WATER SAMPLING, INC. FIELD REPORT

: TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

DATE 02/26/87 WELL: SBR-1

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
	...	....	....	...	..	....	....	.....
11:45			121.90					
11:50				15.00				
11:59	45.00			1.00				
12:02	48.00			1.00				NO WATER
17:02				10.00	7.85	4400		
17:10	128.00			1.00	7.90	4400		
17:17	131.00			1.00	7.90	4400		
17:30	142.00	5.00	121.90	1.00	7.90	4400		FILTERING

## OBSERVATIONS:

Packer size: N/A

Pump size: SP-210

T.D.:

Color: CLEAR

Turbidity: BAD

Odor:

Filteration: PDSF

Comments: THREE SETS OF FILTERS: PUMPED WELL DRY ON 2/26: RETURNED  
02/27/87

WELL: SBR-1

## GROUND WATER SAMPLING, INC. FIELD REPORT

: TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: CAM-3  
DATE 02/25/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
10:00	5.00	....	....	...	7.30	3200	16.0	CALIBRATED
10:05	10.00				7.20	2800		
10:20	15.00				7.05	2400		
10:30	20.00				7.05	2100	17.0	
10:38	25.00				7.05	2100	18.0	
10:44	30.00				7.05	2100	20.0	
10:48	35.00				7.00	2100	22.0	CH CALIB
10:56	40.00				7.00	2100	24.0	
11:00	45.00				7.00	2100	24.0	
11:05	50.00				6.90	2050	24.0	
11:10	55.00				6.95	2000	24.0	
11:15	60.00				6.90	2000	24.0	
11:20	65.00							
11:30	70.00				6.85	1950		RECALIBRATE
11:35	80.00				6.85	1950		
11:55	85.00	5.0			6.85	1950	24.0	SAMPLED

## OBSERVATIONS:

Bailer size: 0.5 GAL DYNAMIC Pump size: N/A

Color: GREY

Turbidity: MEDIUM

T.D.:

Filtration: POOR

Odor:

Comments: TR. OIL AFTER 40 GAL. BAILED: DESTRUCTION 6' FROM BOTTOM:  
INITIALLY MUD SANDY: CLEARED TO WHITE MURKY: STARTED WITH 1.0  
GAL: HAD TO REDUCE SIZE OF BAILER TO BAIL WELL.

WELL: CAM-3

## GROUND WATER SAMPLING, INC. FIELD REPORT

: TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-1  
DATE 02/25/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
	...	....	....	...	..	....	....	.....
14:20				70.00	7.45	4100		
14:26	60.00			10.00	7.45	4000		
14:28	80.00			10.00	7.95	3100		
14:30	100.00			10.00	8.00	3000		
14:32	120.00			10.00	8.00	3000		
14:34	140.00			10.00	8.00	3000		
14:36	160.00	5.00		10.00	8.00	3000	12.0	

## OBSERVATIONS:

Bailer size: N/A

Pump size: SP 2-9

T.D.:

Color: CLEAR

Turbidity: CLEAR

Odor:

Filtration: EXCELLENT

Comments:

WELL: S-1

## GROUND WATER SAMPLING, INC. FIELD REPORT

:TODELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-2  
DATE 02/26/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
14:45	19.00	....	....	8.00	6.50	5000	....	PUMPED DRY
14:50	29.00			2.00	6.70	5000		
14:55	39.00				6.90	5100		
15:00	51.50			2.50	7.10	4600	13.5	
15:05	64.00				7.20	4600		
15:10	76.50				7.25	4550	13.5	
15:15	89.00				7.30	4500		
15:17	99.00	5.00		2.50	7.30	4500	13.5	SAMPLING

## OBSERVATIONS:

Bailer size: 10A Pump size: 5P-210  
Color: LIGHT BROWN Turbidity: SLIGHT  
Filtration: SLOW  
Comments: PUMPED DRY; RECHARGE RATE SHOWN

T.D.:  
Odor:

WELL: S-2

## GROUND WATER SAMPLING, INC. FIELD REPORT

: TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

DATE 02/26/87 WELL: S-3

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
	...	....	....	...	..	....	....	.....
07:46		5.00		8.00	7.20	7500		
07:53					7.20	7600		
08:00					7.20	7600	13.0	
08:05					7.30	8400		
08:06	100.00				7.30	8800		
08:10	130.00				7.30	8700	13.0	
08:15	192.00				7.40	8500		
08:20	230.00				7.40	8500	13.0	SAMPLING
08:25	350.00	5.00		8.00	7.40	8500	17.0	FILTERING

## OBSERVATIONS:

Packer size: N/A

Pump size: SP-25

T.D.I.:

Color: CLEAR

Turbidity: CLEAR

Ocar:

Filtration: GOOD

Comments: SYSTEM FLUSHED 45 TIMES

WELL: S-3

## GROUND WATER SAMPLING, INC. FIELD REPORT

: TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-4  
DATE 02/27/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
14:15	...	....	59.19	...	..	....	....	..... CALIBRATED
14:26				9.00	6.70	7800		
14:30	36.00			.50	7.00	7900		NO WATER
14:35	40.00				7.40	8000		
14:50	41.00			.50	7.50	7800	17.0	NO WATER
15:00	42.00			.50	7.55	7700		FEET APP
15:10	47.00	5.00	59.19	.50	7.55	7700	17.0	SAMPLED

## OBSERVATIONS:

Pailen size: N/A

Pump size: SP-210

I.D.:

Color: CLEAR

Turbidity: SLIGHT

Odor:

Filtration:

Comments: SLI. RECHARGE: PUMPED DRY

WELL: S-4

## GROUND WATER SAMPLING, INC. FIELD REPORT

:TODDLE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-5  
DATE 02/27/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
	...	....	....	...	..	....	....	.....
12:58			35.57					
13:05				10.00	6.70			PUMPING
13:12	20.00			10.00	6.75	14250		
13:16	60.00			10.00	6.80	14250		
13:20	100.00			10.00	7.00	14000	12.5	
13:25	150.00			10.00	7.10	14000		
13:27	170.00			10.00	7.20	14250		
13:30	200.00			10.00	7.30	14250	12.4	
13:32	220.00			10.00	7.30	14250		
13:34	240.00	5.00	35.57	10.00	7.20	14250	12.4	SAMPLED
14:01	240.00	2.00	35.57	10.00	7.20	14250	12.4	FILTERING

## OBSERVATIONS:

Pail size: N/A

Pump size: SF-210

T.D.:

Color: CLEAR

Turbidity: CLEAR

Odor:

Filtration: GOOD

Comments: GOOD WELL

WELL: S-5

## GROUND WATER SAMPLING, INC. FIELD REPORT

:TDOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-6  
DATE 03/02/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
14:45	...	....	....	10.00	6.40	14000	....	....
14:54	90.00			2.00	6.60	19500		PUMPED DRY
14:59	100.00			3.00	6.80	220000		
15:06	110.00			3.00	7.00	220000	14.0	
15:10	120.00	5.00		3.00	7.00	220000	14.0	

## OBSERVATIONS:

Bailer size: N/A Pump size: SP-210 T.D. :  
Color: Turbidity: CLEAR Odor:  
Filtration: EXCELLENT  
Comments: PUMPED DRY; RECHARGE RATE IMPROVED FROM 2 TO 3 GPM

WELL: S-6

## GROUND WATER SAMPLING, INC. FIELD REPORT

: TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-7  
DATE 02/27/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
08:15	...	....	24.50	10.00	..	....	....	ICE
08:31					6.90			
08:37	70.00			.50	7.10	16000	10.9	PUMPED DRY
08:45	74.00			.50	7.30	16250		
08:50	80.00			.50	7.50	16400		
08:58	81.00			.50	7.50	16800		RECHARGE
09:18	90.00			.50	7.60	16500		RESTART
09:15	95.00	5.00	24.50	.50	7.60	16500	10.5	SAMPLED

## OBSERVATIONS:

Bailer size: 10-A

Pump size: 3P-210

T.D.: 54.0'

Color: LT. BROWN

Turbidity: LOW

Odor:

Filtration:

Comments: VERY SLOW RECHARGE - .5 GPM; PUMPED DRY; SAMPLED RECHARGED  
WATER

WELL: S-7

## GROUND WATER SAMPLING, INC. FIELD REPORT

: TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-8  
DATE 02/26/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
	...	....	....	...	..	....	....	.....
10:03			73.30	10.00	8.30	1600		CALIBRATED
10:06	16.00			1.00	8.40	1500		PUMPED DRY
10:12	22.00			1.00		1500		RECHARGE
10:20	30.00			1.00	8.40	1230		
10:25	35.00			1.00	8.30	1140	17.5	
10:30	40.00			1.00	8.10	1110		
10:35	45.00			1.00	8.00	1120		
10:40	50.00			1.00	7.90	1120		
10:45	55.00			1.00	7.90	1120		
10:50	60.00			1.00	7.40	1120		
10:55	65.00			1.00	7.40	1120	17.5	
11:00	70.00			1.00	7.40	1120		
11:05	75.00	2.00	77.30	1.00	7.40	1120	17.5	SAMPLE

## OBSERVATIONS:

Packer seal: A

Pump size: SF 4-14

T.D.: 37.45'

Color: BROWN

Turbidity: MEDIUM

Odor:

Filtration: SLOW

Comments: RECHARGE RATE 1 GPM; PUMPED DRY

WELL: S-8

## GROUND WATER SAMPLING, INC. FIELD REPORT

TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL: S-10

DATE 02/27/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
	...	....	....	...	..	....	....	.....
15:45			68.46					
15:56	99.00			9.00				PUMPING
15:59	126.00			9.00	8.30	420	12.0	
16:01	144.00			9.00	8.10	400		
16:03	162.00			9.00	8.10	400	12.0	
16:05	180.00			9.00	8.05	400		
16:07	198.00			9.00	8.00	400		
16:09	216.00			9.00	8.00	400	10.5	
16:11	234.00			9.00	8.00	400	10.5	
16:12	247.00	5.00	68.46	9.00	8.00	400	10.5	SAMPLE

## OBSERVATIONS:

Sailer size: 1/4 A

Pump size: SP-210

T.D.:

Color: CL/BROWN/GREY

Turbidity: CLEAR/BAZ

Depth:

Filtration:

Comments: CHANGE OF WATER COLOR AT 36 GAL AND 117 GAL.

WELL: S-10

## GROUND WATER SAMPLING, INC. FIELD REPORT

:TOOELE ARMY DEPOT  
NO HISTORICAL DATA:

WELL:S-12  
DATE 02/27/87

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
...	...	....	....	...	..	....	....	.....
10:18								
10:19				10.00	6.60	12600		
10:21				1.00				
10:23	35.00			2.50	6.80	12400		BR/GRY MUD
10:28	45.50			3.33	6.85	12800		
10:33	63.25			3.33	6.90	13000		
10:37	84.25			4.00	7.10	12800		
10:41	100.00			4.00	7.15	13500	11.5	
10:49	132.00			4.00	7.20	13400	11.5	
11:20	252.00	5.00		4.00	7.20	13400	11.5	FILTERING

## OBSERVATIONS:

Pump size: 2-1/2"

Pump size: 50-210

T.D. 140'

Color: LT GREEN

Turbidity: MED - CLEARED

Odor:

Filtration: 4 SETS OF FILTERS REQUIRED

Comments: DEVELOPED WELL BY PUMPING - INCREASED 1 GPM TO 4 GPM: HIGH  
CONDUCTIVITY

WELL:S-12

## GROUND WATER SAMPLING, INC. FIELD REPORT

:TODDELE ARMY DEPOT  
NO HISTORICAL DATA:

DATE 02/27/87  
WELL: S-14

## CURRENT DATA:

TIME	GAL	EQUIV C.V.	W.L.	FLOW RATE GPM	PH	COND	TEMP	OTHER
	...	....	....	...	..	....	....	.....
11:44			10.08	10.00				PUMPING
11:47	30.00				6.00	>20000		
11:48	40.00				6.10	>20000		
11:50	55.00				6.25	>20000	10.3	
11:55	110.00				6.60	49.600		*
11:57	130.00				6.85	74000		*
00:00	150.00				6.95	74000	9.5	*
12:00	160.00	5.00	10.08	10.00	7.00	74000	9.5	SAMPLING

## OBSERVATIONS:

Barler size: N/A

Pump size: SP-210

T.D.:

Color: CLEAR

Turbidity:

Odor:

Filtration: DF

Comments: DEVELOPED WELL: VERY HIGH CONDUCTIVITY: +BY DILUTION 1:4

WELL: S-14

**APPENDIX II-E**

**INSTALLATION RESTORATION DATA MANAGEMENT SYSTEM (IRDMS)  
CHEMICAL DATA, DEFINITIONS, AND CERTIFIED REPORTING LIMITS**

IRPROK  
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TODD F. SOUTH

CSW

8/25/88

....

ORIGINAL RUNID- IRPROJ

DATE-29 AUG 88

TIME-09:13:49

COPIES REQUESTED- 002

US ARMY AMCCOM ABERDEEN PROVING GROUND-EDGEWOOD AREA SCIENTIFIC COMPUTER CENTER - - - UNIVAC 1100/70 LEVEL 39R3D

- - - XEROX 9700 ELECTRONIC PRINTING SYSTEM - - -

RUN DATE: 25 AUG 88

PAGE NO 1

INSTALLATION RESTORATION PROGRAM  
TOOELE AD (SOUTH AREA)  
CSW ANALYTICAL RESULTS  
SITE TYPE : DICH  
SITE ID : S RCAM  
DESCRIPTION

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS BOOL	CONCENTRATION	UNITS MEAS	INT STD
GOA	02/25/87	ET	AG	99	.2		2200	UGL	
			AS		.2		12.7000	UGL	
			BE		.2	LT	.8300	UGL	
			BR		.2	LT	244.0000	UGL	
			B2ENP		.2		2.0000	UGL	S
			CD		.2	LT	11.4000	UGL	
			CL		.2		74000.0000	UGL	
			CPMS		.2	LT	43.4000	UGL	
			CPMSD		.2	LT	79.6000	UGL	
			CPMSD2		.2	LT	30.8000	UGL	
			CR		.2		11.4000	UGL	
			CU		.2		25.0000	UGL	
			F		.2	LT	360.0000	UGL	
GOA	02/26/87	ET	HMX	99	.2	LT	5.0700	UGL	
GOA	02/25/87	ET	NA	99	.2	LT	122000.0000	UGL	
			NI		.2	LT	65.2000	UGL	
			NIT		.2		840.0000	UGL	
			PB		.2		19.0000	UGL	
			PHENLC		.2	LT	870.0000	UGL	
			P040RT		.2		3300.0000	UGL	
GOA	02/26/87	ET	RDX	99	.2	LT	4.1900	UGL	
GOA	02/25/87	ET	SB	99	.2	LT	7.0000	UGL	
			SE		.2	LT	2.5300	UGL	
			SO4		.2		60000.0000	UGL	
			TGCL		.2	LT	720.0000	UGL	
GOA	02/26/87	ET	TETRYL	99	.2	LT	5.6000	UGL	
GOA	02/25/87	ET	TL	99	.2	LT	1.7000	UGL	
			TRCLE		.2	LT	1.9000	UGL	
			ZN		.2		47.0000	UGL	
GOA	02/26/87	ET	130NB	99	.2	LT	9.0800	UGL	
			135TNB		.2	LT	5.8400	UGL	
			24DNT		.2	LT	2.2200	UGL	
			246TNT		.2	LT	6.2500	UGL	
			26DNT		.2	LT	5.7000	UGL	
			BA		.2		49.0000	UGL	
			DIMP		.2	LT	23.0000	UGL	

RUN DATE: 25 AUG 88

PAGE NO 2

INSTALLATION RESTORATION PROGRAM  
TOOELE AD (SOUTH AREA)  
CSW ANALYTICAL RESULTS  
SITE TYPE POND  
SITE ID 5 EXCR 1  
DESCRIPTION

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS BOUL	CONCENTRATION	UNITS MEAS	INI STD
GDA	03/02/87	ET	AG	99	5	GT	4.0000	UGL	
			AS		5		711.0000	UGL	
			BE		5	LT	8300	UGL	
			BR		5		300.0000	UGL	
			CD		5	LT	11.9000	UGL	
			CL		5		10000000.0000	UGL	
			CPMS	99	5	LT	43.4000	UGL	
GDA	02/27/87	ET	CPMS0		5	LT	79.6000	UGL	
			CPMS02		5	LT	30.8000	UGL	
GDA	03/02/87	ET	CR	99	5	LT	10.8000	UGL	
			CU		5	LT	21.3000	UGL	
			CYN		5	LT	29.5000	UGL	
			DIMP		5	LT	23.3000	UGL	
			F		5	LT	360.0000	UGL	
			HMX		5	LT	5.0700	UGL	
			NA		5		3300000.0000	UGL	
			NI		5	LT	65.2000	UGL	
			NIT		5		60.0000	UGL	
			FB		5		3.6000	UGL	
			PHENLC		5	LT	870.0000	UGL	
			PO4ORT		5	LT	56.9000	UGL	
			RDX		5	LT	4.1900	UGL	
			SB		5	LT	7.0000	UGL	
			SE		5	LT	2.5300	UGL	
			TDGCL		5	LT	720.0000	UGL	
			TETRYL		5	LT	4.3900	UGL	
			TL		5	LT	1.7000	UGL	
			TRCLE		5	LT	1.9000	UGL	
			ZN		5		20.0000	UGL	
			13DNB		5	LT	9.0800	UGL	
			13STNB		5	LT	5.8400	UGL	
			24DNT		5	LT	2.2200	UGL	
			246TNT		5	LT	6.2500	UGL	
			26DNT		5	LT	5.7000	UGL	
			SO <sub>4</sub>		5		3300000.0000	UGL	
			BA		5		31.0000	UGL	

RUN DATE 25 AUG 88

PAGE NO 3

INSTALLATION RESTORATION PROGRAM  
FOOTIE AD (SOUTH AREA)  
CSW ANALYTICAL RESULTS  
SITE TYPE POND  
SITE ID 5 EXR 2  
DESCRIPTION

SAMPLE PROG	SAMPLE DATE	LAR	NAME	MTH NUMB	SAMPLE DEPTH(FT)	MEAS ROOT	CONCENTRATION	UNITS MEAS	INT STD
GUA	03/02/87	ET	AG	99	5		2 2600	UGL	
			AS		5		30 0000	UGL	
			BE		5	LT	8300	UGL	
			BR		5	GT	2000.0000	UGL	
			CD		5	LT	11 9000	UGL	
			CPMS		5	LT	43 4000	UGL	
			CPMSO		5	LT	79 6000	UGL	
			CPMSO2		5	LT	30 8000	UGL	
			CR		5	LT	10 8000	UGL	
			CU		5	LT	21 3000	UGL	
			CYN		5	LT	29 5000	UGL	
			DIMP		5	LT	23 3000	UGL	
			F		5	LT	360.0000	UGL	
			HMX		5	LT	5.0700	UGL	
			NI		5	LT	65 2000	UGL	
			NI1		5	LT	40.0000	UGL	
			PB		5		1 7000	UGL	
			PHENLC		5	LT	870.0000	UGL	
			P040RT		5	LT	56 9000	UGL	
			RDX		5	LT	4 1900	UGL	
			SB		5	LT	7 0000	UGL	
			SE		5	LT	2 5300	UGL	
			TGCL		5	LT	720.0000	UGL	
			TETRYL		5	LT	4 3900	UGL	
			TL		5	LT	1 7000	UGL	
			TRCLE		5	LT	1 9000	UGL	
			ZN		5	LT	30 0000	UGL	
			13DNB		5	LT	9 0800	UGL	
			135Y4B		5	LT	5 8400	UGL	
			240N		5	LT	2 2200	UGL	
			246INT		5	LT	6 2500	UGL	
			26DNT		5	LT	5 7000	UGL	
			SO <sub>4</sub>		.5		2300000.0000	UGL	
			BA		.5		65.0000	UGL	
			CL		.5		6000.0000	UGL	

IRPROJ	IRPROJ	IRPROJ
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9/24/88

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ORIGINAL RUNID- IRPROJ      DATE 24 AUG 88      TIME 13:32:40      COPIES REQUESTED- 001

US ARMY AMCCOM ABERDEEN PROVING GROUND-EDGEWOOD AREA SCIENTIFIC COMPUTER CENTER - - - UNIVAC 1100/70 LEVEL 39R30

- - - XEROX 9700 ELECTRONIC PRINTING SYSTEM - - -

RUN DATE 24 AUG 88

PAGE NO 1

INSTALLATION RESTORATION PROGRAM

TOFFLE AD (SOUTH AREA)  
COM ANALYTICAL RESULTS  
SITE TYPE WELL  
SITE ID S CAM 3  
DESCRIPTION

SAMPLE PROG	SAMPLE DATE	LAB	NAME	MEIN NUMB	SAMPLE DEPTH (FT)	MEAS RUEI	CONCENTRATION	UNITS MEAS	INT STD
GOA	02/25/87	ET	AG	99	9.1		4200	UGL	
			ANTRC		9.1		3.0000	UGL	S
			AS		9.1		400.0000	UGL	
			RA		9.1	GT	200.0000	UGL	
			RE		9.1		1.2000	UGL	
GOA	02/28/87	ET	BR	99	9.1	LT	244.0000	UGL	
GOA	02/25/87	ET	BZHP	99	9.1		2.0000	UGL	S
			CD		9.1	LT	11.9000	UGL	
			CL		9.1		83500.0000	UGL	
			CPMS		9.1	LT	43.4000	UGL	
			CPMSO		9.1	LT	79.6000	UGL	
			CPMSO2		9.1	LT	30.9000	UGL	
			CR		9.1		21.0000	UGL	
			CU		9.1	LT	21.3000	UGL	
			DBZEUR		9.1		10.0000	UGL	S
			F		9.1		3100.0000	UGL	
			FIRENF		9.1		20.0000	UGL	S
GOA	02/26/87	ET	HMX	99	9.1	LT	5.0700	UGL	
GOA	02/25/87	ET	NA	99	9.1		173000.0000	UGL	
			NAP		9.1		100.0000	UGL	S
			NI		9.1	LT	65.2000	UGL	
			NTT		9.1		70.0000	UGL	
			PR		9.1		31.0000	UGL	S
			PHAJTR		9.1		60.0000	UGL	
			PHENLC		9.1	LT	870.0000	UGL	
			PU4URT		9.1		120.0000	UGL	
GOA	02/26/87	ET	RDX	99	9.1	LT	4.1900	UGL	
GOA	02/25/87	ET	SB	99	9.1	LT	7.0000	UGL	
			SE		9.1	LT	2.5300	UGL	
			SD4		9.1		250000.0000	UGL	
			TGCL		9.1	LT	720.0000	UGL	
GOA	02/26/87	ET	TETRYI	99	9.1	LT	4.3900	UGL	
GOA	02/25/87	ET	TL	99	9.1	LT	1.7000	UGL	
			ZN		9.1		114000.0000	UGL	
GOA	02/26/87	ET	13DNB	99	9.1	LT	9.0800	UGL	
			135TNB		9.1	LT	5.8400	UGL	
GOA	02/25/87	ET	2MNAP	99	9.1		200.0000	UGL	S
GOA	02/26/87	ET	24DNT	99	9.1	LT	2.2200	UGL	
			246TNT		9.1		14.2000	UGL	
			26DNT		9.1	LT	5.7000	UGL	
			ANAPNE		9.1		40.0000	UGL	
			C6H6		9.1		20.0000	UGL	
			ETC6H5		9.1		6.0000	UGL	
			DIMP		9.1	LT	23.3000	UGL	

RUN DATE 24 AUG 88

PAGE NO 2

INSTALLATION RESTORATION PROGRAM

TOOELE AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE WELL  
SITE ID S SRR 1  
DESCRIPTION

SAMPLE ID	SAMPLE DATE	LAB	NAME	MTH NUMR	SAMPLE DEPTH(FT)	MEAS ROOT	CONCENTRATION	UNITS MEAS	INT STD
QDA	02/27/87	ET	AG	99	119.4	LT	1400	UGL	
			AS		119.4		R 8000	UGL	
			RA		119.4	GT	2000 0000	UGL	
			RR7P		119.4		5 0000	UGL	S
			RE		119.4	LT	8300	UGL	
			BR		119.4	LT	244 0000	UGL	
			B2FHP		119.4		7 0000	UGL	S
			CD		119.4	LT	11 9000	UGL	
			CL		119.4		1300000 0000	UGL	
			CPMS		119.4	LT	43 4000	UGL	
			CPMSD		119.4	LT	79 6000	UGL	
			CPMCD2		119.4	LT	31 8000	UGL	
			CR		119.4		31 0000	UGL	
			CU		119.4		22 0000	UGL	
			CYN		119.4	LT	29 5000	UGL	
			DIMP		119.4	LT	23 3000	UGL	
			F		119.4		600 0000	UGL	
			HMX		119.4	LT	5 0700	UGL	
			MECH45		119.4		7 0000	UGL	S
			NA		119.4		29000 0000	UGL	
			NI		119.4	LT	65 2000	UGL	
			NIT		119.4		1300 0000	UGL	
			PB		119.4		7 8000	UGL	
			PHENLC		119.4	LT	870 0000	UGL	
			P040RT		119.3	LT	56 9000	JGL	
			RDX		119.4	LT	4 1900	UGL	
			SB		119.4	LT	7 0000	UGL	
			SE		119.4	LT	2 5300	UGL	
			TGCL		119.4	LT	720 0000	UGL	
			TETRYL		119.4	LT	4 3900	UGL	
			TL		119.4	LT	1 7000	UGL	
			ZN		119.4		110 0000	UGL	
			13DNB		119.4	LT	9 0800	UGL	
			135TNR		119.4	LT	5 8400	UGL	
			24DNT		119.4		2 5000	UGL	
			246TNT		119.4	LT	6 2500	UGL	
			26DNT		119.4	LT	5 7000	UGL	
			S04		119.4		164000 0000	UGL	

RUN DATE 24 AUG 88

PAGE NO 3

INSTALLATION RESTORATION PROGRAM

TOOELE AD (SOUTH AREA)

CGW ANALYTICAL RESULTS

SITE TYPE WELL

SITE ID 51

DESCRIPTION 1ST DGT X.Y.V-7.7

SAMPLE PRG	SAMPLE DATE	LAB	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS RSDI	CONC NTRATION	UNITS MEAS	INT STD
GQA	02/25/87	ET	AG	99	4.4		2200	UGL	
			AS		4.4		260.0000	UGL	
			RA		4.4		32.0000	UGL	
			RE		4.4	LT	8300	UGL	
GQA	02/28/87	ET	BR	99	4.4		628.0000	UGL	
GQA	02/25/87	ET	B2EMP	99	4.4		3.0000	UGL	5
			CD		4.4		12.0000	UGL	
			CL		4.4		350000.0000	UGL	
			CPMS		4.4	LT	43.4000	UGL	
			CPMS01		4.4	LT	79.6000	UGL	
			CPMS02		4.4	LT	30.8000	UGL	
			CR		4.4	LT	10.8000	UGL	
			CU		4.4	LT	21.3000	UGL	
			F		4.4		2700.0000	UGL	
GQA	02/26/87	ET	HMX	99	4.4	LT	5.0700	UGL	
GQA	02/25/87	ET	NA	99	4.4		381000.0000	UGL	
			NI		4.4	LT	65.2000	UGL	
			NIT		4.4		190.0000	UGL	
			PB		4.4		46.9000	UGL	
			PHENIC		4.4	LT	870.0000	UGL	
			P040RT		4.4		190.0000	UGL	
GQA	02/26/87	ET	RDX	99	4.4	LT	4.1900	UGL	
GQA	02/25/87	ET	SB	99	4.4	LT	7.0000	UGL	
			SE		4.4	LT	2.5300	UGL	
GQA	02/26/87	ET	SO4	99	4.4	LT	620000.0000	UGL	
			TOGCL		4.4		720.0000	UGL	
GQA	02/25/87	ET	TETRYI	99	4.4	LT	4.3900	UGL	
			TL		4.4	LT	1.7000	UGL	
			ZN		4.4	LT	14.3000	UGL	
GQA	02/26/87	ET	13DNB	99	4.4	LT	9.0800	UGL	
			135TNR		4.4	LT	5.8400	UGL	
			24DNI		4.4	LT	2.2200	UGL	
			246TNI		4.4	LT	6.2500	UGL	
			26DNT		4.4	LT	20.5000	UGL	
			SO4		4.4		620000.0000	UGL	
			DIMP		4.4	LT	23.3000	UGL	

RUN DATE 24 AUG 88

PAGE NO: 4

INSTALLATION RESTORATION PROGRAM  
TOFFLE AD (SOUTH AREA)  
GOW ANALYTICAL RESULTS  
SITE TYPE WELL  
SITE ID S 2  
DESCRIPTION 7, 11 PLANAR

SAMPLE PROG	SAMPLE DATE	LAB	NAME	MFTH NUMB	SAMPLE DEPTH(FT)	MEAS BODL	CONCENTRATION	UNITS MEAS	INT STD
GDA	02/26/87	ET	AG	99	56.6	LT	1400	UGL	
			AS		56.6		5.7000	UGL	
			RA		56.6		130.0000	UGL	S
			RB2P		56.6		6.0000	UGL	
			RE		56.6	LT	8300	UGL	
			RR		56.6	LT	244.0000	UGL	
			CD		56.6	LT	11.9000	UGL	
			CL		56.6		25000.0000	UGL	
			CPMS		56.6	LT	43.4000	UGL	
			CPMSD		56.6	LT	79.6000	UGL	
			CPMS02		56.6	LT	30.8000	UGL	
			CR		56.6	LT	10.8000	UGL	
			CU		56.6	LT	21.3000	UGL	
			F		56.6	LT	360.0000	UGL	
			HG		56.6	LT	1.1000	UGL	
			HMX		56.6	LT	5.0700	UGL	
			MEC6H5		56.6		4.0000	UGL	S
			NA		56.6		26000000.0000	UGL	
			NI		56.6	LT	1670.0000	UGL	
			NIT		56.6		65.2000	UGL	
			PB		56.6	LT	1.5000	UGL	
			PHENLC		56.6	LT	870.0000	UGL	
			PO4ORT		56.6	LT	56.9000	UGL	
			RDX		56.6	LT	4.1900	UGL	
			SB		56.6	LT	7.0000	UGL	
			SE		56.6	LT	2.5300	UGL	
			TDGCL		56.6	LT	720.0000	UGL	
			TETRYL		56.6	LT	4.3900	UGL	
			TL		56.6	LT	1.7000	UGL	
			ZN		56.6		20.0000	UGL	
			13DNB		56.6	LT	9.0800	UGL	
			135NR		56.6	LT	5.8400	UGL	
			24DNT		56.6	LT	2.2200	UGL	
			246INT		56.6	LT	6.2500	UGL	
			26DNT		56.6	LT	5.7000	UGL	
			S04		56.6		19000.0000	UGL	
			DIMP		56.6	LT	23.3000	UGL	

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INSTALLATION RESTORATION PROGRAM  
TOOLE A3 (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE : WELL  
SITE ID : S 3  
DESCRIPTION 7.7

SAMPLE PRG	SAMPLE DATE	LAR	NAME	MTTH NUMR	SAMPLE DEPTH (FT)	MEAS RCON	CONCENTRATION	UNITS MEAS	INT STD
430A	02/26/87	FT	AG	99	22.6		1800	UGL	
			AS		22.6		30.9000	UGL	
			BA		22.6		21.0000	UGL	
			BR7P		22.6		2.0000	UGL	5
			RE		22.6		8300	UGL	
			BR		22.6	1.1	1990.0000	UGL	
			CU		22.6	1.1	11.9000	UGL	
			CL		22.6		3200000.0000	UGL	
			CPMS		22.6	1.1	43.4000	UGL	
			CPMS01		22.6	1.1	79.6000	UGL	
			CPMS02		22.6	1.1	30.8000	UGL	
			CR		22.6	1.1	10.8000	UGL	
			CU		22.6		25.0000	UGL	
			F		22.6		1180.0000	UGL	
			HMV		22.6	1.1	5.0700	UGL	
			NI		22.6		66.0000	UGL	
			NIT		22.6		350.0000	UGL	
			PR		22.6	1.1	1.5000	UGL	
			PHENLC		22.6	1.1	870.0000	UGL	
			P040PT		22.6		70.0000	UGL	
			RDX		22.6	1.1	4.1900	UGL	
			SB		22.6	1.1	7.0000	UGL	
			SE		22.6	1.1	2.5300	UGL	
			TDGCL		22.6	1.1	720.0000	UGL	
			TF1RYI		22.6	1.1	4.3900	UGL	
			TL		22.6		2.7000	UGL	
			ZN		22.6		20.0000	UGL	
			130NR		22.6	1.1	9.0800	UGL	
			1351NR		22.6	1.1	5.8400	UGL	
			240NT		22.6	1.1	2.2200	UGL	
			246TNT		22.6	1.1	6.2500	UGL	
			260NT		22.6	1.1	5.7000	UGL	
			S04		22.6		900000.0000	UGL	
			DIMP		22.6	1.1	23.0000	UGL	

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INSTALLATION RESTORATION PROGRAM  
 TODELF AD (SOUTH AREA)  
 CGW ANALYTICAL RESULTS  
 SITE TYPE WELL  
 SITE ID S 4  
 DESCRIPTION 7.7

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METH NUMR	SAMPLE DEPTH(FT)	MEAS R001	CONCENTRATION	UNITS MEAS	INT STD
GJA	02/27/87	FT	AG	99	57.2			UGL	
			AS		57.2	GT	372.0000	UGL	
			BA		57.2		140.0000	UGL	
			RBZP		57.2		20.0000	UGL	S
			RF		57.2	LT	8300	UGL	
			RR		57.2		2000.0000	UGL	
			RZALC		57.2		7.0000	UGL	S
			RZELP		57.2		90.0000	UGL	S
			CD		57.2	LT	11.9000	UGL	
			CL		57.2		1500000.0000	UGL	
			CPMS		57.2	LT	43.4000	UGL	
			CPMSD		57.2	LT	79.6000	UGL	
			CPMSO2		57.2	LT	30.8000	UGL	
			CR		57.2		16.0000	UGL	
			CU		57.2		29.0000	UGL	
			CYN		57.2	LT	29.5000	UGL	
			DIMP		57.2	LT	23.3000	UGL	
			F		57.2		1400.0000	UGL	
			HG		57.1	LT	1.1000	UGL	
			HMX		57.2	LT	5.0700	UGL	
			MEC6H5		57.2		3.0000	UGL	S
			NA		57.2		1010000.0000	UGL	
			NI		57.2	LT	65.2000	UGL	
			NIT		57.2		636.0000	UGL	
			PB		57.2		3.7000	UGL	
			PHENIC		57.2	LT	870.0000	UGL	
			PO4DR1		57.2		140.0000	UGL	
			RDX		57.2	LT	4.1900	UGL	
			SB		57.2	LT	7.0000	UGL	
			SE		57.2	LT	2.5300	UGL	
			TFGCL		57.2	LT	720.0000	UGL	
			TLTRYL		57.2	LT	4.3900	UGL	
			TL		57.2		3.1000	UGL	
			Zn		57.2		160.0000	UGL	
			13DNB		57.2	LT	9.0800	UGL	
			135TNB		57.2	LT	5.8400	UGL	
			24DNT		57.2	LT	2.2200	UGL	
			246TNT		57.2	LT	6.2500	UGL	
			260TNT		57.2	LT	5.7000	UGL	
			SO4		57.2		2500000.0000	UGL	

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INSTALLATION RESTORATION PROGRAM  
TOOELE AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE WFL  
SITE ID S 5  
DESCRIPTION 7.7

SAMPLE PROG	SAMPLE DATE	IAR	NAME	MFTH NUMR	SAMPLE DEPTH(FT)	MEAS RDO1	CONCENTRATION	UNITS MEAS	INT STD
GJA	02/27/87	ET	AG	99	34.3		7400	UGL	
			AS		34.3		154.0000	UGL	
			BA		34.3		34.0000	UGL	
			BB7P		34.3		2.0000	UGL	S
			BE		34.3		8300	UGL	
			BR		34.3		20000.0000	UGL	
			R2FHP		34.3		30.0000	UGL	S
			CD		34.3		11.9000	UGL	
			CL		34.3		2000000.0000	UGL	
			CPMS		34.2		43.4000	UGL	
			CPMSD		34.2		79.6000	UGL	
			CPMS02		34.2		30.8000	UGL	
			CR		34.3		16.0000	UGL	
			CU		34.3		23.0000	UGL	
			CYN		34.3		29.5000	UGL	
			DIMP		34.3		23.3000	UGL	
			F		34.3		2000.0000	UGL	
			HMX		34.3		5.0700	UGL	
			NA		34.3		1000000.0000	UGL	
			NI		34.3		65.2000	UGL	
			NIT		34.3		2302.0000	UGL	
			PR		34.3		1.5000	UGL	
			PHENLC		34.3		870.0000	UGL	
			PD40RT		34.3		70.0000	UGL	
			RDX		34.3		4.1900	UGL	
			SB		34.3		7.0000	UGL	
			SE		34.3		2.5300	UGL	
			TGCL		34.3		720.0000	UGL	
			TETQVI		34.3		4.3900	UGL	
			TL		34.3		3.1000	UGL	
			ZN		34.3		80.0000	UGL	
			13DNB		34.3		9.0800	UGL	
			135TNR		34.3		5.8400	UGL	
			24DNT		34.3		2.2200	UGL	
			246TNT		34.3		6.2500	UGL	
			26DNT		34.3		5.7000	UGL	
			S04		34.3		1860000.0000	UGL	

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INSTALLATION RESTORATION PROGRAM  
TOOTLE AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE WELL  
SITE ID S 6  
DESCRIPTION 7.7

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS POOL	CONCENTRATION	UNITS MEAS	INT STD
GOA	03/02/87	FT	AG	93	15.3	GT	4.0000	UGL	
			AS		15.3		415.0000	UGL	
			BA		15.3		10.0000	UGL	
			BBZP		15.3		5.0000	UGL	S
			BE		15.3	LT	8.3000	UGL	
			BR		15.3		390.0000	UGL	
			CD		15.3	LT	11.9000	UGL	
			CL		15.3		12000000.0000	UGL	
			CPMS		15.3	LT	43.4000	UGL	
			CPMSO		15.3	LT	79.6000	UGL	
			CPMSO2		15.3	LT	30.8000	UGL	
			CR		15.3	LT	10.8000	UGL	
			CU		15.3	LT	21.3000	UGL	
			CYN		15.3	LT	29.5000	UGL	
			DIMP		15.3	LT	23.3000	UGL	
			F		15.3		1500.0000	UGL	
			HMX		15.3	LT	5.0700	UGL	
			MEC6H5		15.3		8.0000	UGL	S
			NA		15.3		5700000.0000	UGL	
			NI		15.3	LT	65.2000	UGL	
			NIT		15.3		110.0000	UGL	
			PB		15.3		3.4000	UGL	
			PHENLC		15.3	LT	870.0000	UGL	
			P040RT		15.3		180.0000	UGL	
			RDX		15.3	LT	4.1900	UGL	
			SB		15.3		7.1000	UGL	
			SE		15.3	LT	2.5300	UGL	
			TGCI		15.3	LT	720.0000	UGL	
			TETRYI		15.3	LT	4.3900	UGL	
			TL		15.3	LT	1.7000	UGL	
			TRCLE		15.3	LT	1.9000	UGL	
			ZN		15.3		30.0000	UGL	
			13UNB		15.3	LT	9.0800	UGL	
			135TNB		15.3	LT	5.8400	UGL	
			24DNT		15.3		3.3000	UGL	
			246TNT		15.3	LT	6.2500	UGL	
			260NT		15.3	LT	5.7000	UGL	
			SO4		15.3		4450000.0000	UGL	

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INSTALLATION RESTORATION PROGRAM  
TOOTLE AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE WELL  
SITE ID S 7  
DESCRIPTION 7.7

SAMPLE PRG	SAMPLE DATE	LAR	NAME	METH NUMR	SAMPLE DEPTH(FT)	MEAS RDR	CONCENTRATION	UNITS MEAS	INT STD
GJA	02/27/87	FT	AG	99	22.8		1.6700	UGL	
			AS		22.8		54.0000	UGL	
			RA		22.8		103.0000	UGL	S
			RR2P		22.8		7.0000	UGL	
			BE		22.8		8300	UGL	
			RR		22.8	11	700.0000	UGL	
			R2FHP		22.8		6.0000	UGL	S
			CD		22.8	11	11.9000	UGL	
			CL		22.8		4400000.0000	UGL	
			CPMS		22.8	11	43.4000	UGL	
			CPMSN		22.8	11	79.6000	UGL	
			CPMS02		22.8	11	30.8000	UGL	
			CR		22.8	11	10.8000	UGL	
			CU		22.8	11	90.0000	UGL	
			CYN		22.8	11	29.5000	UGL	
			DIMP		22.8	11	23.3000	UGL	
			F		22.8	11	600.0000	UGL	
			HMX		22.9	11	5.0700	UGL	
			NA		22.8	11	2000000.0000	UGL	
			NI		22.8	11	65.2000	UGL	
			NIT		22.8		4500.0000	UGL	
			PB		22.8		4.9000	UGL	
			PHENLC		22.8	11	870.0000	UGL	
			PD40R1		22.8		80.0000	UGL	
			RDX		22.9	11	4.1900	UGL	
			SB		22.8	11	7.0000	UGL	
			SE		22.8	11	2.5300	UGL	
			TGCL		22.8	11	720.0000	UGL	
			TETRYL		22.9	11	4.3900	UGL	
			TL		22.8		3.2000	UGL	
			ZN		22.8		120.0000	UGL	
			13DN6		22.9	11	9.0800	UGL	
			135TNE		22.9	11	5.8400	UGL	
			2MP		22.8		5.0000	UGL	S
			24DNT		22.9	11	2.2200	UGL	
			246TNT		22.9	11	6.2500	UGL	
			26DNT		22.9	11	5.7000	UGL	
			SO4		22.9		416000.0000	UGL	

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INSTALLATION RESTORATION PROGRAM  
FOOTFILL AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE WILL  
SITE 1 S R  
DESCRIPTION 7.7

SAMPLE PROG	SAMPLE DATE	LAR	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS R001	CONCENTRATION	UNITS MEAS	INT STD
GQA	02/26/87	ET	AG	99	71.0	LT	1400	UGL	
			AS		71.0		14 1000	UGL	
			BA		71.0		110 0000	UGL	S
			B8ZP		71.0		10 0000	UGL	
			BE		71.0	LT	8300	UGL	
			BR		71.0	LT	244 0000	UGL	
			B2FHP		71.0		10 0000	UGL	S
			CO		71.0	LT	11 9000	UGL	
			CL		71.0		49000.0000	UGL	
			CPMS		71.0	LT	43 4000	UGL	
			CPMSO		71.0	LT	79 6000	UGL	
			CPMSO2		71.0	LT	30 8000	UGL	
			CR		71.0		24 0000	UGL	
			CU		71.0	LT	21 3000	UGL	
			F		71.0	LT	360 0000	UGL	
			HMX		71.0	LT	5 0700	UGL	
			NA		71.0		1800000.0000	UGL	
			NI		71.0	LT	65 2000	UGL	
			NIT		71.0		2210 0000	UGL	
			PB		71.0	LT	7 8000	UGL	
			PHENLC		71.0		870 0000	UGL	S
			PHENOL		71.0		3 0000	UGL	
			P040RT		71.0		57 0000	UGL	
			RDX		71.0	LT	4 1900	UGL	
			SB		71.0	LT	7 0000	UGL	
			SE		71.0	LT	2 5300	UGL	
			TDGCL		71.0	LT	720 0000	UGL	
			TETRYL		71.0	LT	4 3900	UGL	
			TL		71.0	LT	1 7000	UGL	
			ZN		71.0		60 0000	UGL	
			130NB		71.0	LT	9 0800	UGL	
			135NB		71.0	LT	5 8400	UGL	
			240NT		71.0	LT	2 2200	UGL	
			246INT		71.0	LT	6 2500	UGL	
			260NT		71.0	LT	5 7000	UGL	
			S04		71.0		80000.0000	UGL	
			DIMP		71.0	LT	23 3000	UGL	

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INSTALLATION RESTORATION PROGRAM  
TOOELE AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE WELL  
SITE ID 1510  
DESCRIPTION 7.7

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METH NUMB	SAMPLE DEP. (FT)	MEAS R001	CONCENTRATION	UNITS MEAS	INT STD
GDA	02/27/87	ET	AG	99	66.3		4300	UGL	
			AS		66.3		34 2000	UGL	
			BA		66.3	UT	200.0000	UGL	S
			BR/P		66.3		2 0000	UGL	
			RE		66.3		1.7500	UGL	
			BR		66.3	LT	244.0000	UGL	
			BZALC		66.3		5.0000	UGL	S
			B2HP		66.3		3.0000	UGL	S
			CD		66.3	LT	11.9000	UGL	
			CL		66.3		23000.0000	UGL	
			CPMS		66.3	LT	43 4000	UGL	
			CPMSO		66.3	LT	79 6000	UGL	
			CPMSO2		66.3	LT	30.8000	UGL	
			CR		66.3		88.0000	UGL	
			CU		66.3		80.0000	UGL	
			CYN		66.3	LT	29.5000	UGL	
			DIMP		66.3	LT	23.3000	UGL	
			F		66.3		600.0000	UGL	
			HMX		66.3	LT	5.0700	UGL	
			NA		66.3		2000.0000	UGL	
			NI		66.3		82.0000	UGL	
			NIT		66.3		2000.0000	UGL	
			PR		66.3		27.0000	UGL	
			PHENLC		66.3	LT	870.0000	UGL	
			P040RT		66.3	LT	56.9000	UGL	
			RDX		66.3	LT	4.1900	UGL	
			SB		66.3	LT	7.0000	UGL	
			SE		66.3	LT	2.5300	UGL	
			TGCL		66.3	LT	720.0000	UGL	
			TFEYL		66.3	LT	4.3900	UGL	
			TL		66.3		4.7000	UGL	
			ZN		66.3		270.0000	UGL	
			130NB		66.3	LT	9.0800	UGL	
			135NB		66.3	LT	5.8400	UGL	
			24DNT		66.3	LT	2.2200	UGL	
			246TNT		66.3	LT	6.2500	UGL	
			26DNT		66.3	LT	5.7000	UGL	
			S04		66.3		40000.0000	UGL	

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INSTALLATION RESTORATION PROGRAM  
TOOLE AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE : WELL  
SITE ID : S 12  
DESCRIPTION : 7.7

SAMPLE PRG	LAB	NAME	MTN NUMB	SAMPLE DEPTH(FT)	MEAS ROOM	CONCENTRATION	UNITS	INT
GOA	ET	AG	99	3.9		4300	UGL	
		AS		3.9		183.0000	UGL	
		BA		3.9	GT	200.0000	UGL	
		BBZP		3.9		3.0000	UGL	S
		BE		3.9	LT	8300	UGL	
		BR		3.9		1250.0000	UGL	
		CD		3.9	LT	11.9000	UGL	
		CL		3.9		300000.0000	UGL	
		CPMS		3.9	LT	43.4000	UGL	
		CPMS0		3.9	LT	79.6000	UGL	
		CPMS02		3.9	LT	30.8000	UGL	
		CR		3.9	LT	10.8000	UGL	
		CU		3.9		24.0000	UGL	
		CYN		3.9	LT	29.5000	UGL	
		DIMP		3.9	LT	23.3000	UGL	
		F		3.9		1200.0000	UGL	
		HMX		3.9	LT	5.0700	UGL	
		NA		3.9		160000.0000	UGL	
		NI		3.9	LT	65.2000	UGL	
		NIT		3.9		2852.0000	UGL	
		PB		3.9		2.7000	UGL	
		PHENLC		3.9	LT	870.0000	UGL	
		PO4ORT		3.9		90.0000	UGL	
		RDX		3.9	LT	4.1900	UGL	
		SB		3.9	LT	7.0000	UGL	
		SE		3.9	LT	2.5300	UGL	
		TDGCL		3.9	LT	720.0000	UGL	
		TETRYL		3.9	LT	4.3900	UGL	
		TL		3.9		2.4000	UGL	
		ZN		3.9		90.0000	UGL	
		13DNB		3.9	LT	9.0800	UGL	
		135TNB		3.9	LT	5.8400	UGL	
		24DNT		3.9	LT	2.2200	UGL	
		246INT		3.9	LT	6.2500	UGL	
		26DNT		3.9	LT	5.7000	UGL	
		S04		3.9		1490000.0000	UGL	

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INSTALLATION RESTORATION PROGRAM  
1001E AD (SOUTH AREA)  
CGW ANALYTICAL RESULTS  
SITE TYPE - WELL  
SITE ID S 14  
DESCRIPTION 7.7

SAMPLE PRGR	SAMPLE DATE	LAB	NAME	METH NUMR	SAMPLE DEPTH(FT)	MEAS RDR	CONCENTRATION	UNITS	INT STD
00A	02/27/87	FT	AG	93	8.0		4500	UGL	
			AS		8.0		133.0000	UGL	
			BA		8.0		7.9000	UGL	
			BB2P		8.0		4.0000	UGL	5
			BE		8.0				
			BR		8.0	11	244.0000	UGL	
			CD		8.0	11	11.9000	UGL	
			CL		8.0		18000000.0000	UGL	
			CPMS		8.0	11	43.4000	UGL	
			CPMS0		8.0	11	79.6000	UGL	
			CPMS02		8.0	11	30.8000	UGL	
			CR		8.0	11	10.8000	UGL	
			CU		8.0		70.0000	UGL	
			CYN		8.0	11	29.5000	UGL	
			DIMP		8.0	11	23.3000	UGL	
			F		8.0		500.0000	UGL	
			HMX		8.0	11	5.0700	UGL	
			NI		8.0	11	65.2000	UGL	
			NI1		8.0		640.0000	UGL	
			PR		8.0		2.9000	UGL	
			PHENIC		8.0	11	870.0000	UGL	
			POADRT		8.0		200.0000	UGL	
			RDX		8.0	11	4.1900	UGL	
			SB		8.0		15.2000	UGL	
			SE		8.0	11	2.5300	UGL	
			TGCI		8.0	11	720.0000	UGL	
			TFTRYI		8.0	11	4.3900	UGL	
			TL		8.0		2.8000	UGL	
			ZN		8.0	11	14.3000	UGL	
			130NR		8.0	11	9.0800	UGL	
			135NR		8.0	11	5.8400	UGL	
			240NT		8.0	11	2.2200	UGL	
			245NT		8.0	11	6.2500	UGL	
			260NT		8.0	11	5.7000	UGL	
			S04		8.0		1140000.0000	UGL	

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ORIGINAL RUNID- IRPROJ

DATE 24 AUG 88

TIME-13:38:98

COPIES REQUESTED- 001

US ARMY AMCCOM ABERDEEN PROVING GROUND-EDGEWOOD AREA SCIENTIFIC COMPUTER CENTER - - UNIVAC 1100/70 LEVEL 39R3D

- - - XEROX 9700 ELECTRONIC PRINTING SYSTEM - - -

RUN DATE 24 AUG 88

INSTALLATION RESTORATION PROGRAM  
 TOOELE AD (SOUTH AREA)  
 GSO ANALYTICAL RESULTS  
 SITE TYPE LAGO  
 SITE ID S 1W0P  
 DESCRIPTION

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METU NUMB	SAMPLE DEPTH(FT)	MEAS ROOT	CONCENTRATION	UNITS MEAS	INT STD
GOA	02/20/87	ET	11MX	93	1.7	1.1	9 2000	UGG	
			NR		1.7	1.1	9 2000	UGG	
			NIT		1.7	1.1	11,1000	UGG	
			RDX		1.7	1.1	6 6900	UGG	
			130NB		1.7	1.1	8300	UGG	
			135TNR		1.7	1.1	5000	UGG	
			24DNT		1.7	1.1	3 4000	UGG	
			245TNT		1.7	1.1	5000	UGG	
			26DNT		1.7	1.1	5400	UGG	

RUN DATE 24 AUG 88

PAGE NO 2

INSTALLATION RESTORATION PROGRAM  
 TOLEF AD (SOUTH AREA)  
 CSO ANALYTICAL RESULTS  
 SITE TYPE : LAGO  
 SITE ID : S-WOP 1  
 DESCRIPTION

SAMPLE PRIG	SAMPLE DATE	LAR	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS R001	CONCENTRATION	UNITS MEAS	INT STD
GOA	02/20/87	ET	HMX	99	2.3	LT	9.2000	UGG	
			NR		2.3	LT	9.2000	UGG	
			NIT		2.3	LT	28.7000	UGG	
			RDX		2.3	LT	6.6900	UGG	
			13DNB		2.3	LT	8300	UGG	
			135TNR		2.3	LT	5000	UGG	
			24DNT		2.3	LT	3.4000	UGG	
			246TNT		2.3	LT	5000	UGG	
			26DNT		2.3	LT	5400	UGG	

RUN DATE 24 AUG 88

PAGE NO 3

INSTALLATION RESTORATION PROGRAM  
 100FEE AD (SOUTH AREA)  
 CSO ANALYTICAL RESULTS  
 SITE TYPE LAGO  
 SITE ID S WDP 2  
 DESCRIPTION

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS ROOT	CONCENTRATION	UNITS MEAS	INT STD
GOA	02/20/87	FT	HMX	99	2 3	11	9 2000	UGG	
			NB		2 3	11	9 2000	UGG	
			NIT		2 3	11	11 1000	UGG	
			RDX		2 3	11	6 6900	UGG	
			130NR		2 3	11	8300	UGG	
			1351NR		2 3	11	5000	UGG	
			24DNT		2 3	11	3 4000	UGG	
			2461NT		2 3	11	5000	UGG	
			26DNT		2 3	11	5400	UGG	

RUN DATE 24 AUG 88

PAGE NO: 4

INSTALLATION RESTORATION PROGRAM

TOOELE AD (SOUTH AREA)

CSO ANALYTICAL RESULTS

SITE TYPE : LAGO

SITE ID : S WOP 3

DESCRIPTION :

SAMPLE PROG	SAMPLE DATE	LAR	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS RODL	CONCENTRATION	UNITS MEAS	INT STD
GOA	02/20/87	ET	IMX	99	2.3	LT	9 2000	UGG	
			NR		2.3	LT	9 2000	UGG	
			NIT		2.3		20,9000	UGG	
			RDX		2.3	LT	6,6900	UGG	
			13DNR		2.3	LT	8300	UGG	
			1351NR		2.3	LT	5000	UGG	
			24DN7		2.3	LT	3 4000	UGG	
			246TNT		2.3	LT	5000	UGG	
			260NT		2.3	LT	5400	UGG	

RUN DATE: 24 AUG 88

INSTALLATION RESTORATION PROGRAM  
 TODELE AD (SOUTH AREA)  
 CSO ANALYTICAL RESULTS  
 SITE TYPE LAGO  
 SITE ID: 5 WOP 4  
 DESCRIPTION

SAMPLE PROG	SAMPLE DATE	LAB	NAME	METH NUMB	SAMPLE DEPTH(FT)	MEAS R00L	CONCENTRATION	UNITS MEAS	INT STD
GOA	02/20/87	ET	HMX	99	2.3	LT	9.2000	UGG	
			NB		2.3	LT	9.2000	UGG	
			NTT		2.3	LT	11.1000	UGG	
			RDX		2.3	LT	6.6900	UGG	
			130NB		2.3	LT	8300	UGG	
			135NB		2.3	LT	5000	UGG	
			24DNT		2.3	LT	3.4000	UGG	
			246TN1		2.3	LT	5000	UGG	
			26DNT		2.3	LT	5400	UGG	

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

ALPHABETIC SORT BY CODES:

AACHXE	ACETIC ACID, CYCLOHEXYL ESTER
ABHC	ALPHA-BENZENEHEXACHLORIDE / ALPHA-HEXACHLOROCYCLOHEXANE
AC	HYDROGEN CYANIDE / HYDROCYANIC ACID
ACDMMW	ACIDS (HIGH MOLECULAR WEIGHT)
ACET	ACETONE
ACHE	ANTICHOLINESTERASE
ACIDIT	ACIDITY
ACPHN	ACETOPHENONE
ACROLN	ACROLEIN
ACRYLO	ACRYLONITRILE
ADHP	AMMONIUM DIHYDROGEN PHOSPHATE
AENSLF	ALPHA-ENDOSULFAN / ENDOSULFAN I
AG	SILVER
AL	ALUMINIUM
ALAL	ALIPHATIC ALCOHOL
ALDEHY	ALDEHYDES
ALDRN	ALDRIN
ALHC	ALIPHATIC HYDROCARBON
ALHMW	ALCOHOLS (HIGH MOLECULAR WEIGHT)
ALK	ALKALINITY
ALKBIC	ALKALINITY BICARBONATE
ALKCAR	ALKALINITY CARBONATE
ALKHYD	ALKALINITY HYDROXIDE
ALKN	ALKANE
ANAPNE	ACENAPHTHENE
ANAPYL	ACENAPHTHYLENE
ANELNT	ANION ELUENT
ANIL	ANILINE
ANTRC	ANTHRACENE
ANTRCN	9-ANTHRACENECARBONITRILE
ANTRQU	9,10-ANTHRACENEDIONE / ATHRAQUINONE
AS	ARSENIC
ASBEST	ASBESTOS
ASEXT	ARSENIC EXTRACTABLE
ASTOT	ARSENIC TOTAL
ATNBA	2,4,6-TRINITROBENZALDEHYDE
ATNT	ALPHA-TRINITROTOLUENE (OBSOLETE; USE 246TNT)
ATZ	ATRAZINE
AYLETH	ALLYL ETHER
AZACN	AZACYLONONANE
B	BORON
BA	BARIUM
BAANTR	BENZO [A] ANTHRACENE
BAHXE	BUTANOIC ACID, 1-HEXYL ESTER
BAPYR	BENZO [A] PYRENE
BBFANT	BENZO [B] FLUORANTHENE
BBFLRE	BENZO [B] FLUORENE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

BBHC	BETA-BENZENEHEXACHLORIDE / BETA-HEXACHLOROCYCLOHEXANE
BBNTHP	BENZO [B] NAPHTHO[1,2-D]THIOPHENE
BBZP	BUTYLBENZYL PHTHALATE
BCHPD	BICYCLO [2,2,1] HEPTA-2,5-DIENE
BCLME	BIS(CHLOROMETHYL) ETHER
BCPHCE	2,2-BIS(CHLOROPHENYL)CHLOROETHYLENE DDT RELATED
BCY3HX	BICYCLO [3,1,0] HEXANE
BDADME	BUTANEDIOIC ACID, DIMETHYL ESTER
BE	BERYLLIUM
BEETO	1-(2-BUTOXYETHOXY)ETHANOL
BENSLF	BETA-ENDOSULFAN / ENDOSULFAN II
BENZA	BENZANTHRONE
BENZAL	BENZALDEHYDE
BENZID	BENZIDINE
BENZO	BENZOIC ACID
BEP	2-BUTOXYETHANOL PHOSPHATE
BF2ANT	BENZOBIFLUORANTHENE
BGHIFA	BENZO [GHI] FLUOROANTHENE
BGHIPY	BENZO [G,H,I] PERYLENE
BICYHX	BICYCLOHEXYL
BIDBI	1,5-BIS(1,1DIMETHYLETHYL)-3,3-DIMETHYLBICYCLO[3.1.0]- HEXANE-2-ONE
BiNAP	BINAPHTHYL
BJFANT	BENZO [J] FLUORANTHENE
BKFANT	BENZO [K] FLUORANTHENE
BLDX	BLADEX
BMP	BUTYLMETHYL PHTHALATE
BOD	BIOLOGICAL OXYGEN DEMAND
BPBG	BUTYLPHTHALYL BUTYLGLYCOLATE
BRCLM	BROMOCHLOROMETHANE
BRDCLM	BROMODICHLOROMETHANE
BRMCIL	BROMACIL
BTA	BENZOTHIAZOLE
BTMSOA	BIS(TRIMETHYLSILYL) OXALIC ACID
BUEETH	BUTYLETHYL ETHER
BZ	3-QUINUCLIDINYL BENZILATE
BZALC	BENZYL ALCOHOL
BZAL2M	ALPHA,ALPHADIMETHYLBENZENEMETHANOL
BZAPAN	BENZO [A] PHENANTHRENE
BZCPAN	BENZO [C] PHENANTHRENE
BZFANT	BENZFLUORANTHENE
BZHQUN	BENZO [H] QUINOLINE
BZOAME	BENZOIC ACID, METHYL ESTER / METHYL BENZOATE
BZOTHP	BENZO [B] THIOPHENE
BZOTRZ	1H-BENZOTRIAZOLE / 1,2,3-BENZOTRIAZOLE
BZPA	BENZENEPHOSPHONIC ACID
BZYLBR	BENZYL BROMIDE / ALPHA-BROMOTOLUENE
B2CEXM	BIS(2-CHLOROETHOXY)METHANE
B2CIPE	BIS(2-CHLOROISOPROPYL) ETHER
B2CLEE	BIS(2-CHLOROETHYL) ETHER

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

B2EHP	BIS(2-ETHYLHEXYL) PHTHALATE
CA	CALCIUM
CAC03S	CALCIUM CARBONATE SOLUTION
CALLMW	HYDROCARBONS (ALL MOLECULAR WEIGHTS)
CAME	CARBAMIC ACID, METHYL ESTER
CAMP	CAMPHOR
CAPLCT	CAPROLACTAM / 6-AMINOHEXANOIC ACID LACTAM
CARBAZ	9H-CARBAZOLE
CBA	O-CHLOROBENZALDEHYDE
CBCCH	CIS-1-BROMO2-CHLOROCYCLOHEXANE
CBOA	O-CHLOROBENZOIC ACID
CCLF2	CHLORODIFLUOROMETHANE
CCLF3	TRIFLUOROCHLOROMETHANE
CCL2F2	DICHLORODIFLUOROMETHANE
CCL3F	TRICHLOROFLUOROMETHANE
CCL4	CARBON TETRACHLORIDE
CC3	XXCC3
CD	CADMIUM
CDACH	CIS-1,2-DIACETOXYCYCLOHEXANE
CDCL3	CHLOROFORM-D
CDNBIS	CHLORODINITROBENZENE ISOMER
CD2CL2	METHYLENE CHLORIDE-D2
CEC	CATION EXCHANGE CAPACITY
CG	PHOSGENE / CARBONYL CHLORIDE
CHBR3	BROMOFORM
CHCL3	CHLOROFORM
CHO	1,2-CYCLOHEXANE OXIDE
CHOLA	CHOLESTANF
CHONE	CYCLOHEXANONE
CHRY	CHRYSENE
CH2CL2	METHYLENE CHLORIDE
CH3BR	BROMOMETHANE
CH3CL	CHLOROMETHANE
CH3CN	ACETONITRILE
CK	CYANOGEN CHLORIDE
CL	CHLORIDE
CLCYHX	CHLOROCYCLOHEXANE
CLC6D5	CHLOROBENZENE-D5
CLC6H5	CHLOROBENZENE
CLD	CHLORINE DEMAND
CLDAN	CHLORDANE
CLDEN	CHLORDENE
CLNAP	CHLORONAPHTHALENES
CLO3	CHLORATE
CLP	CHLOROPHENOLS
CLVRA	2-CHLOROVINYL ARSONIC ACID
CLXB	CHLORINATED BENZENES
CLXNAP	CHLORINATED NAPHTHALENES
CL2	CHLORINE
CL2BP	DICHLOROBIPHENYLS

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

CL2BZ	DICHLOROBENZENES
CL2NAP	DICHLORONAPHTHALENES
CL3BP	TRICHLOROBIPHENYLS
CL3C3E	TRICHLOROPROPENES
CL3NAP	TRICHLORONAPHTHALENES
CL3P	TRICHLOROPHENOLS
CL4BP	TETRACHLOROBIPHENYLS
CL4NAP	TETRACHLORONAPHTHALENES
CL5B	PENTACHLOROBENZENE
CL5BP	PENTACHLOROBIPHENYLS
CL5ET	PENTACHLOROETHANE
CL6BP	HEXACHLOROBIPHENYLS
CL6BZ	HEXACHLOROBENZENE
CL6CP	HEXACHLOROCYCLOPENTADIENE
CL6ET	HEXACHLOROETHANE
CL7BP	HEPTACHLOROBIPHENYLS
CL7NB	HEPTACHLORONORBORNADIENES
CMONOX	CARBON MONOXIDE
CN	CHLOROACETOPHENONE
CO	COBALT
COD	CHEMICAL OXYGEN DEMAND
COND	SPECIFIC CONDUCTIVITY
COND-F	SPECIFIC CONDUCTIVITY AS TESTED IN FIELD (RM, SEMI-QUANT ONLY)
COUMRN	2,3-DIHYDROBENZOFURAN / COUMARAN
CO3	CARBONATE
CPCXAL	CYCLOPENTANECARBOXALDEHYDE
CPMS	P-CHLOROPHENYLMETHYL SULFIDE
CPMSO	P-CHLOROPHENYLMETHYL SULFOXIDE
CPMSO2	P-CHLOROPHENYLMETHYL SULFONE
CPO	CYCLOPENTANONE
CR	CHROMIUM
CRHEX	HEXAVALENT CHROMIUM
CR04	CHROMATE
CS	CESIUM
CSOL	CRESOLS
CS2	CARBON DISULFIDE
CU	COPPER
CUEXT	COPPER EXTRACTABLE
CUTOT	COPPER TOTAL
CX	PHOSGENE OXIME / DICHLOROFORMOXIME
CYDODC	CYCLODODECANE
CYHX	CYCLOHEXANE
CYHXB	CYCLOHEXYLBENZENE / PHENLYCYCLOHEXANE
CYN	CYANIDE
CYNF	CYANIDE, FREE FORM
CYOCTE	CYCLOOCTATETRAENE
CYPD	CYCLOPENTADIENE
CYPNE	CYCLOPENTENE
CIADME	CARBONIC ACID, DIMETHYL ESTER
C10	DECANE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

C11	UNDECANE
C12	DODECANE
C12AMM	8-METHYLDECANOIC ACID, METHYL ESTER
C12DCE	CIS-1,2-DICHLOROETHENE
C13	TRIDECANE
C13DCP	CIS-1,3-DICHLOROPROPYLENE / CIS-1,3-DICHLOROPROPENE
C14	TETRADECANE
C14A	TETRADECANOIC ACID / MYRISTIC ACID
C14AME	TETRADECANOIC ACID, METHYL ESTER
C15	PENTADECANE
C15A	PENTADECANOIC ACID
C16	HEXADECANE
C16A	HEXADECANOIC ACID / PALMITIC ACID
C16ABE	HEXADECANOIC ACID, BUTYL ESTER
C16ADM	HEXADECANOIC ACID, DIMETHYL ESTER
C16AEH	HEXADECANOIC ACID, BIS(2-ETHYLHEXYL) ESTER
C16AME	HEXADECANOIC ACID, METHYL ESTER
C16SAT	SATURATED HYDROCARBONS (C16)
C17	HEPTADECANE
C17AM	HEPTADECANOIC ACID, METHYL ESTER
C18	OCTADECANE
C18ABE	OCTADECANOIC ACID, BUTYL ESTER
C18AE	OCTADECANOIC ACID, ETHYL ESTER
C18AME	OCTADECANOIC ACID, METHYL ESTER
C18AOD	OCTADECANOIC ACID, OCTADECYL ESTER
C18UNS	C18H300 UNKNOWN
C185FP	BIS(PENTAFLUOROPHENYL)PHENYL PHOSPHINE
C19	NONADECANE
C19A	NONADECANOIC ACID
C2AVE	ACETIC ACID, VINYL ESTER / VINYL ACETATE
C2H3CL	CHLOROETHENE / VINYL CHLORIDE
C2H5CL	CHLOROETHANE
C20	EICOSANE
C21	HENEICOSANE
C22UNS	C22H400 UNKNOWN
C25	PENTACOSANE
C3AME	PROPANOIC ACID, METHYL ESTER
C30AME	TRIACONTANOIC ACID, METHYL ESTER
C36	HEXATRIACONTANE
C4	BUTANE
C4HX1L	CIS-4-HEXEN-1-OL
C5A	PENTANOIC ACID / VALERIC ACID
C6D6	BENZENE-D6
C6HOH	CYCLOHEXANOL
C6H6	BENZENE
C7A	HEPTANOIC ACID
C7NB1	HEPTACHLORONORBORNENE
C8AME	OCTANOIC ACID, METHYL ESTER
C9	NONANE
DBAHA	DIBENZO [A,H] ANTHRACENE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

DBATTS	2,4-DIHYDROXYBENZOIC ACID, TRIS-TRIMETHYSILYL
DBCP	DIBROMOCHLOROPROPANE
DBHC	DELTA-BENZENEHEXACHLORIDE / DELTA-HEXACHLOROCYCLOHEXANE
DBRCLM	DIBROMOCHLOROMETHANE
DBTSPY	4,5-DIMETHYL-2,6-BIS(TRIMETHYLSILOXY)PYRIMIDINE
DBZFUR	DIBENZOFURAN
DBZTHP	DIBENZOTHIOPHENE
DCAMBA	2-METHOXY-3,6-DICHLOROBENZOIC ACID
DCBPH	DICHLOROBENZOPHENONE
DCHP	DICYCLOHEXYL PHTHALATE
DCMBF	5,7-DICHLORO-2-METHYLBENZOFURAN
DCMPSX	DECAMETHYLCYCLOPENTASILOXANE
DCPD	DICYCLOPENTADIENE
DDVP	VAPONA
DEA	DIETHEYLAMINE
DECYLB	DECYLBENZENE
DEDMP	DIETERYLDIMETHYL DIPHOSPHONATE
DEETH	DIETHYL ETHER
DEGLYC	2,2-OXYBISETHANOL / DIETHYLENE GLYCOL
DEP	DIETHYL PHTHALATE
DEPD4	DIETHYL PHTHALATE-D4
DHBZPY	3,4-DIHYDRO-2H-1-BENZOPYRAN
DHDMAC	9,10-DIHYDRO-9,9-DIMETHYLACRIDINE
DIACAL	DIACETONE ALCOHOL / 4-HYDROXY-4-METHYL-2-PENTANONE
DIADS	BIS(DIISOPROPYLAMINOETHYL) DISULFIDE
DIAEL	DIISOPROPYLAMINOETHANOL
DIAEP	S-DIISOPROPYLAMINOETHYLMETHYL PHOSPHONOTHIOATE
DIAET	DIISOPROPYLAMINOETHANETHIOL
DIAS	BIS(DIISOPROPYLAMINOETHYL) SULFIDE
DIAZ	DIAZINON
DIBP	DIISOBUTYL PHTHALATE
DICLP	DICHLOROPHENOLS
DIDDP	DIISOPROPYLDIMETHYL DIPHOSPHONATE
DIH2O	DEIONIZED WATER
DIMP	DIISOPROPYLMETHYL PHOSPHONATE
DIOP	DIISOOCTYL PHTHALATE
DIPUR	DIISOPROPYLUREA
DITH	DITHIANE
DLDRN	DIELDRIN
DLZHPG	DL-2-(3-HYDROXYPHENYL)GLYCINE
DM	ADAMSITE
DMA	DIMETHYLANILINE (OBSOLETE; USE NNDMA)
DMCAR	DIMETHYL DITHIOCARBONATE
DMCPDE	1,2-DIMETHYLCYCLOPENTADIENE
DNDS	DIMETHYL DISULFIDE
DMETH	DIMETHYL ETHER
DMIP	DIMETHYL ISOPHTHALATE
DMMP	DIMETHYLMETHYL PHOSPHATE
DMP	DIMETHYL PHTHALATE
DMPCHE	3-(2,2-DIMETHYLPROPOXY)CYCLOHEXENE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

DMPTHF	2,2-DIMETHYL-5-(1-METHYLPROPYL)TETRAHYDROFURAN
DMXDM	DIMETHOXYDIMETHYLSILANE
DM1ACH	2,2-DIMETHYL-1-ACETYLCYCLOHEXANE
DNBEE	1,1-DI-N-BUTYLETHYLENE / 1,1-DI-N-BUTYLETHENE
DNBP	DI-N-BUTYL PHTHALATE
DNOP	DI-N-OCTYL PHTHALATE
DNOPD4	DI-N-OCTYL PHTHALATE-D4
DNPP	DI-N-PENTYL PHTHALATE
DNTISO	DINITROTOLUENE ISOMER
DO	DISSOLVED OXYGEN
DOAD	DIOCTYL ADIPATE
DOAZ	DIOCTYL AZELATE
DODECB	DODECYLBENZENE
DOETH	DIOCTYL ETHER
DOPAM	4-(2-AMINOETHYL)PYROCATECHOL / DOPAMINE
DPA	DIPHENYLAMINE
DPETH	DIPHENYL ETHER
DPETYN	1,1-(1,2-ETHYNEEDIYL) BIS [BENZENE]
DPHNY	DIPHENYL
DPNTLL	D-(-)-PANTOLYL LACTONE
DPSO	DIPHENYL SULFOXIDE
DPSULF	1,1-THIOBIS [BENZENE] / DIPHENYLSULFIDE
DSEDIN	DISELENODIINDOLE
DTB4C	2,6-DI-TERTBUTYL-4-CRESOL
DTCHBO	1.ALPHA.(E),4.ALPHA.-1-(1,4-DIHYDROXY-2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-2-BUTEN-1-ONE
DURS	DURBAN
DYSCAN	GC-MS DYE SCAN
EBCPGL	ETHYL-2,2-BIS(4-CHLOROPHENYL) GLYCOLATE
ED	DICHLOROETHYL ARSINE
EDBDAS	3-PHENYLPROPANOYL
EICOSL	1-EICOSANOL
EMP	ETHYLMETHYL PHOSPHONATE
EMPA	ETHYLMETHYL PHOSPHONIC ACID
ENDRN	ENDRIN
ENDRNA	ENDRIN ALDEHYDE
ENHETH	ETHYL-N-HEXYL ETHER
ESFSO4	ENDOSULFAN SULFATE
ETBD10	ETHYLBENZENE-D10
ETCYRX	ETHYLCYCLOHEXANE
ETC6H5	ETHYLBENZENE
ETOH	ETHANOL
F	FLUORIDE
FABPEE	FORMIC ACID, BETA-PHENYLETHYL ESTER
FACHAE	FORMIC ACID, CYCLOHEXYL ESTER
FANT	FLUORANTHENE
FARN	FARNESOL
FA1AL	FATTY ALCOHOL
FE	IRON
FLRENE	FLUORENE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

FREON	FREON / DICHLOROFUOROMETHANE
F10BP	DECAFLUOROBIPHENYL
GA	TABUN / ETHYL-N,N-DIMETHYL PHOSPHORAMIDOCYANIDATE
GB	SARIN / ISOPROPYLMETHYL PHOSPHONOFUORIDATE
GD	SOMAN / PINACOLYLMETHYL PHOSPHONOFUORIDATE
GRNDY	GREEN DYE
H	LEVINSTEIN MUSTARD
HARD	TOTAL HARDNESS
HCBD	HEXACHLOROBUTADIENE
HCNB	HEXACHLORONORBORNADIENE
HCO3	BICARBONATE
HD	DISTILLED MUSTARD / BIS(2-CHLOROETHYL) SULFIDE
HEXANE	HEXANE
HG	MERCURY
HGEXT	MERCURY EXTRACTABLE
HGTOT	MERCURY TOTAL
HMTCH2	2,6,10,15,19,23-HEXAMETHYL-2,6,10,14,18,22-TETRACOSAHEXAENE
HMX	CYCLOTETRAMETHYLENETETRANITRAMINE
HN	NITROGEN MUSTARD
HPCL	HEPTACHLOR
HPCLE	HEPTACHLOR EPOXIDE
HPLH2O	HPLC GRADE WATER
HPO4	HYDROLYZABLE PHOSPHATE
HWX013	HALOWAX 1013
HWX099	HALOWAX 1099
HXADBE	HEXANEDIOIC ACID, DIBUTYL ESTER / DIBUTYL ADIPATE
HXADOE	HEXANEDIOIC ACID, DIOCTYL ESTER
HXCCS	HEXACOSANE
HXHMA2	4,5,6,7,8,8A-HEXAHYDRO-8A-METHYL-2-[1H]-AZULENONE
HXMETA	1,3,5,7-TETRAAZATRICYCLO [3.3.13.7] DECANE / HEXAMETHYLENE TETRAMINE
HXMTSX	HEXAMETHYLCYCLOTRISILOXANE
HYDRND	1H-INDENE, OCTAHYDRO- / HYDRINDANE
HYDR2	HYDRAZINE
HYNB	7-HYDROXYNORBORNADIENE
H2S	HYDROGEN SULFIDE
H3PO4	PHOSPHORIC ACID
ICDPYR	INDENO [1,2,3-C,D] PYRENE
IMP	ISOPROPYLMETHYL PHOSPHONATE
IMPA	ISOPROPYLMETHYL PHOSPHONIC ACID
INDAN	1-HYDROXY-2,3-METHYLENE INDAN [M.W.146]
ISODR	ISODRIN
ISOPBZ	ISOPROPYLBENZENE / CUMENE
ISOPHR	ISOPHORONE
ISOQUN	ISOQUINOLINE
I4HXDE	1,4 - HEXADIENE
K	POTASSIUM
KEND	KETOENDRIN
L	LEWISITE
LACYBB	LACTIC ACID CYCLIC BUTANEBORONATE
LAURIC	LAURIC ACID

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

LIN	LINDANE / GAMA-BENZENEHEXACHLORIDE / GAMMA-HEXACHLOROCYCLOHEXANE
LIPID	? LIPIDS
LO	LEWISITE OXIDE
MALO	MALONONITRILE
MBADOE	3-METHYLBUTANOIC ACID, 3,7-DIMETHYL-2,4,6-OCTATRIENYL ESTER
MBAS	FOAMING AGENTS / METHYALYNE BLUE ACTIVE SUBSTANCE
MBOH	ALPHA-METHYLBENZYL ALCOHOL
MBZA	ALPHA-METHYLBENZYL ACETOACETATE
MBZCAC	5-METHYLBENZO [C] ACRIDINE
MBZCL	ALPHA-METHYLBENZYL-2-CHLOROACETOACETATE
MDCL	2-METHYLUNDECANAL / 2-METHYLHENEDECANAL
MEBPIP	1,1'-METHYLENEBIS [PIPERIDINE]
MECC6	METHYLCYCLOHEXANE
MECYBU	METHYLCYCLOBUTANE
MECYDC	METHYLCYCLODECANE
MECYPE	METHYLCYCLOPENTANE
MEC6D8	TOLUENE-D8
MEC6H5	TOLUENE
MEHG	METHYL MERCURY
MEK	METHYLETHYL KETONE
MEOH	METHANOL
MEPOH	2-METHYLPENTANOL
MESTOX	MESITYL OXIDE / 4-METHYL-3-PENTEN-2-ONE
METLAP	METHYLNAPHTHALENES
MEACLR	METHOXYCHLOR
ME2C11	DIMETHYLUNDECANES
ME2HPL	METHYL-2-HEPTANOLS
ME2HPO	METHYL-2-HEPTANONES
ME2NAP	DIMETHYLNAPHTHALENES
ME3C6	TRIMETHEXANES
ME3C10	TRIMETHYLDECANES
ME3C11	TRIMETHYLUNDECANES
ME3NAP	TRIMETHYLNAPHTHALENES
MG	MAGNESIUM
MHYDRZ	METHYLHYDRAZINE
MIBK	METHYLISOBUTYL KETONE
MIPK	METHYLISOPROPYL KETONE
MIREX	MIREX
MLTHN	MALATHION
MN	MANGANESE
MNBK	METHYL-N-BUTYL KETONE / 2-HEXANONE
MO	MOLYBDENUM
MP	METHYLPHENOLS
MPA	METHYLPHOSPHONIC ACID
MPDD	2-(META-CHLOROPHENYL)-2-(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE
MPK	METHYLPROPYL KETONE / 2-PENTANONE
MQFH20	MILLI-Q-FILTERED WATER
MSSCAN	GC-MS ORGANIC SCAN
MTRZL	METRAZOL / CARDIAZOLE
NA	SODIUM

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

NAOHME	50% 1M NaOH/50% METHANOL
NAP	NAPHTHALENE
NAPD8	NAPHTHALENE-D8
NB	NITROBENZENE
NBD5	NITROBENZENE-D5
NBMNSA	N-BUTYL-4-METHYLBENZENESULFONAMIDE
NBUETH	1,1'-OXYBIS [BUTANE] / BUTYL ETHER
NC	NITROCELLULOSE
NCLN	NORTRICYCLANOL
NCPPPA	N-(4-CHLOROPHENYL)-3-PHENYL-2-PROPENAMIDE
NC1	NITROCELLULOSE 12% N
NC2	NITROCELLULOSE 13.4% N
NDHXA	N-NITRODIHEXYLAMINE
NDIOX	NITROGEN DIOXIDE
NDMBSA	N,4-DIMETHYLBENZENESULFONAMIDE
NDNPA	NITROSODI-N-PROPYLAMINE
NECHXA	N-ETHYLCYCLOHEXYLAMINE
NE2PEA	N-ETHYL-2-PROPENAMIDE
NG	NITROGLYCERINE
NHEDCA	N-(2-HYDROXYETHYL)-DECANAMIDE
NH3	AMMONIA
NH3N2	AMMONIA NITROGEN
NI	NICKEL
NIT	NITRITE, NITRATE-NON SPECIFIC
NITARO	NITROAROMATICS
NMANIL	N-METHYLANILINE
NMCANE	N-METHYLCARBAMIC ACID, 1-NAPHTHYL ESTER
NMNSOA	N-METHYL-N-NITROSOANILINE
NNDMA	N,N-DIMETHYLANILINE
NNDMEA	N-NITROSODIMETHYLAMINE
NNDNPA	N-NITROSODI-N-PROPYLAMINE
NNDPA	N-NITROSODIPHENYLAMINE
NNPIPA	N-NITROSOPENTYLIISOPENTYLAMINE
NN4HPL	N-NITROSO-4-HYDROXYPROLINE
NO2	NITRITE
NO3	NITRATE
N2KJEL	NITROGEN BY KJELDAHL METHOD
OCADME	OCTANEDIOIC ACID, DIMETHYL ESTER
ODAPDM	OCTADECANOIC ACID, (2-PHENYL-1,3-DIOXOLAN-4-YL)METHYL ESTER
ODECA	OCTADECANOIC ACID / STEARIC ACID
ODMNSX	OCTADECAMETHYLCYCLONONASILOXANE
OEMP	O-ETHYLMETHYL PHOSPHONATE
OILGR	OIL & GREASE
OMCTSX	OCTAMETHYLCYCLOTETRASILOXANE
OPDDD	2-(ORTHO-CHLOROPHENYL)-2-(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE
OPDDE	2-(ORTHO-CHLOROPHENYL)-2-(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE
OPDDT	2-(ORTHO-CHLOROPHENYL)-2-(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE
OP04	ORGANOPHOSPHATES
OXAT	1,4-OXATHIANE
OXCN	OXACYCLONONANE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

OZONE	OZONE
PAD4NE	PHOSPHORIC ACID, DIETHYL-4-NITROPHENYL ESTER
PAH	POLYNUCLEAR AROMATIC HYDROCARBON
PAODPE	PHOSPHORIC ACID, OCTYLDIPHENYL ESTER
PARTIC	PARTICULATE MATTER
PATBUE	PROPANOIC ACID, T-BUTYL ESTER
PATPE	PHOSPHORIC ACID, TRIPHENYL ESTER
PAZHDE	PROPANOIC ACID, 2-HYDROXYDECYL ESTER
PAZMBE	PENTANOIC ACID, 2-METHYLBUTYL ESTER
PB	LEAD
PBSTY	LEAD STYPHNATE
PCB016	PCB 1016
PCB221	PCB 1221
PCB232	PCB 1232
PCB242	PCB 1242
PCB248	PCB 1248
PCB254	PCB 1254
PCB260	PCB 1260
PCB262	PCB 1262
PCP	PENTACHLOROPHENOL
PCYME	4-(1-METHYLETHYL)TOLUENE / P-CYME
PD	DICHLOROPHENYL ARSINE
PDMSLX	POLYDIMETHYL SILOXANE / DIMETHYLPOLY SILOXANE
PEGE	POLYETHYLENEGLYCOL ETHERS
PENAM	N-PENTAMIDE
PENTAN	PENTANE
PETN	PENTAERYTHRITOL TETRANITRATE
PFP	PENTAFLUOROPHENOL
PH	PH
PHANTR	PHENANTHRENE
PHENAA	PHENYLACETIC ACID
PHEND6	PHENOL-D6
PHENLC	PHENOLICS (NON-SPECIFIC)
PHENOL	PHENOL
PHTHA	1,2-BENZENEDICARBOXYLIC ACID / PHTHALIC ACID
PHTHL	PHTHALATES
PHXAA	PHENOXYACETIC ACID
PHYCP	1,2,3,4,5-PENTAHYDROXYCYCLOPENTANE
PH-F	PH AS TESTED IN THE FIELD (RM, SEMI-QUANT ONLY)
PIPER	PIPERIDINE
POX	PURGEABLE ORGANIC HALOGEN
PO4	PHOSPHATE
PO4ORT	ORTHOPHOSPHATE
PPDDD	2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE
PPDDE	2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE
PPDDT	2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE
PPTDE	2,2-BIS(PARA-CHLOROPHENYL)-2-PHENYL-1,1-DICHLOROETHENE
PRTHN	PARATHION
PYR	PYRENE
PYRD10	PYRENE-D10

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

P4	PHOSPHORUS
RDX	CYCLONITE / HEXAHYDRO-1,3,5-TRINITRO-1,3,4-TRIAZINE
REDDY	RED DYE
RESACI	RESIN ACIDS
S	SULFUR
SB	ANTIMONY
SCN	THIOCYANATE
SE	SELENIUM
SIL	SILICONE
SILVEX	SILVEX
SN	TIN
SO3	SULFITE
SO4	SULFATE
SPIRO	(1',5 TRANS)-7-CHLORO-6-HYDROXY-2',4-DIMETHOXY-6'-METHYL- SPIRO [BENZOFURAN-2-(3H)-1'-(2)-CYCLOHEXENE]-3,4'-DIONE
SQUAL	SQUALENE
SR	STRONTIUM
STERO	STERIODS
STIGMA	STIGMASTENAL
STYPH	STYPHENATE ION
STYPHA	STYPHENIC ACID
STYR	STYRENE
SUADME	SULFURIC ACID, DIMETHYL ESTER
SULFID	SULFIDE
SUPONA	SUPONA / 2-CHLORO-1-(2,4-DICHLOROPHENYL)VINYLDIETHYL PHOSPHATE
S2CL2	SULFUR MONOCHLORIDE
TBA	TRIBUTYLAMINE
TBASDE	THIOBUTYRIC ACID, S-DECYL ESTER
TBP	TRIBUTYL PHOSPHATE
TCB	TETRACHLOROBENZENES
TCB1	1,2,4,5-TETRACHLOROBENZENE
TCB2	1,2,3,4-TETRACHLOROBENZENE
TCB3	1,2,3,5-TETRACHLOROBENZENE
TCDD	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN / DIOXIN
TCHDCS	TRANS-1,2-CYCLOHEXANDIOL, CYCLIC SULFITE
TCLEA	1,1,2,2-TETRACHLOROETHANE
TCLEE	TETRACHLOROETHYLENE / TETRACHLOROETHENE
TCLTFE	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE
TCOS	TETRACOSANE
TCSAME	15-TETRACOSENOIC ACID, METHYL ESTER
TCST	TRICHLOROSTYRENE
TDGCL	THIODIGLYCOL
TDMHSX	TETRADECAMETHYL HEXASILOXANE
TDODTL	TERT-DODECANETHIOL
TDS	TOTAL DISSOLVED SOLIDS
TEGLME	TRIETHYLENE GLYCOL, METHYL ETHER
TEGLYC	2,2'-[1,2-ETHANEDIYLBIS(OXY)]BIS [ETHANOL] / TRIETHYLENE GLYCOL
TEMP	TEMPERATURE
TEMP-F	TEMPERATURE AS TESTED IN THE FIELD (RM, SEMI-QUANT ONLY)
TEPO4	TRIETHYL PHOSPHATE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

TETPT	TETRACHLOROCYCLOPENTENE
TETR	TETRAZENE
TETRYL	NITRAMINE / N-METHYL-N,2,4,6-TETRANITROANILINE / TETRYL
TFAAPE	TRIFLUOROACETIC ACID, 1,5-PENTANEDIYL ESTER
TFDCLE	1,1,2-TRIFLUORO-1,2-DICHLOROETHANE
TGLYME	TETRAGLYME
THF	TETRAHYDROFURAN
THP2ML	TETRAHYDROPYRANYL-2-METHANOL
TL	THALLIUM
TMHPDO	3,3,6-TRIMETHYL-1,5-HEPTADIEN-4-ONE
TMHXL	3,5,5-TRIMETHYL-1-HEXANOL
TMODEO	2,2,7,7-TETRAMETHYL-4,5-OCTADIEN-3-ONE
TMPHAN	TETRAMETHYLPHENANTHRENE
TMPO3	TRIMETHYL PHOSPHITE
TMPO4	TRIMETHYL PHOSPHATE
TMTCON	3,5,24-TRIMETHYLTETRACONTANE
TMUR	TETRAMETHYLUREA
TM3PL	2,3,4-TRIMETHYL-3-PENTANOL
TNBISO	TRINITROBENZENE ISOMER
TNTISO	TRINITROTOLUENE ISOMER
TOC	TOTAL ORGANIC CARBON
TOTDDT	TOTAL VALUE OF ALL DDT, DDE, DDD ISOMERS
TOTGAF	TOTAL GRAVIMETRIC, ACID FRACTION
TOTHG2	TOTAL MERCURY
TOTPCB	TOTAL PCB
TOX	TOTAL ORGANIC HALOGENS
TPH	THIOPHENE
TPO4	TOTAL PHOSPHATES
TRCLE	TRICHLOROETHYLENE / TRICHLOROETHENE
TRIBZ	TRICHLOROBENZENES
TRIMBZ	TRIMETHYLBENZENES
TRIPT	TRICHLOROCYCLOPENTENE
TRMTDE	2,3,4-TRIMETHYL-4-TETRADECENE
TRPHEN	TRIPHENYLENE
TRXMET	TRIHALOMETHANES
TS	TOTAL SULFUR
TSAPPE	P-TOLUENESULFONIC ACID, HEPTYL ESTER
TSS	TOTAL SUSPENDED SOLIDS
TVS	TOTAL VOLATILE SOLIDS
TXPHEN	TOXAPHENE
T1B2BC	TRANS-1-BROMO-2-BUTYLCYCLOPROPANE
T12DCE	TRANS-1,2-DICHLOROETHENE / TRANS-1,2-DICHLOROETHYLENE
T13DCP	TRANS-1,3-DICHLOROPROPENE
T2DEC	TRANS-2-DECENE
UDMH	UNSYMMETRICAL DIMETHYL HYDRAZINE
UNKXXX	UNKNOWN COMPOUND 001 THRU 999. NOTE: 001-999 FULL FIELD AS SHOWN
V	VANADIUM
VARHY	VARIOUS HYDROCARBONS WITH INCREASING M.W.
VFA	VINYL FORMATE
VH	O-ETHYL-S-(2-DIETHYLAMINOETHYL)METHYL PHOSPHONOTHIOLATE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

VX	O-ETHYL-S-(2-DIISOPROPYLAMINOETHYL)METHYL PHOSPHONOTHIOLATE
WP	WHITE PHOSPHORUS
XPLOSV	EXPLOSIVE SPRAY
XYLEN	XYLENES
YELDY	YELLOW DYE
ZN	ZINC
ZR	ZIRCONIUM
Q1NHCL	0.1 N HYDROCHLORIC ACID
1A3MPZ	1-ACETYL-3-METHYL-5-PYRAZOLONE
1BY4HB	1-BENZYL-4-HYDROXYBENZIMIDAZOLE
1CDMPZ	1-CARBAMOYL3,5-DIMETHYL-2-PYRAZOLINE
1CLODC	1-CHLOROOCATADECANE
1C4L	1-BUTANOL
1DODCL	1-DODECANOL
1EHB	1-ETHYLHEXYLBENZENE
1EPB	1-ETHYLPROPYLBENZENE
1E2MB	1-ETHYL-2-METHYLBENZENE
1E24DB	1-ETHYL-2,4DIMETHYLBENZENE
1FNAP	1-FLUORONAPHTHALENE
1HPDOL	1-HEPTADECANOL
1HXE	1-HEXENE
1HX3OL	1-HEXEN-3-OL
1MBAAN	1-METHYLBENZ(A)ANTHRACENE
1MCPNE	1-METHYLCYCLOPENTENE
1MDB	1-METHYLDECYLBENZENE
1MECHX	1-METHYLETHYLCYCLOHEXANE
1MEIND	1-METHYLINDAN
1MFLRE	1-METHYL-9HFLUORENE
1MNAP	1-METHYLNAPHTHALENE
1MNB	1-METHYLNONYLBENZENE
1MPYR	1-METHYLPYRENE
1MX1PE	1-METHOXY-1PROPENE
1M2PEC	1-METHYL-2-(2-PROPENYL)CYCLOPENTANE
1M7MEN	1-METHYL-7-(1-METHYLETHYL)NAPHTHALENE
1NHP	1-NITROHEPTANE
1NKCL	1.0N KCL SOLUTION
1N2ONE	1-NITRO-2-OCTANONE
1OCTOL	1-OCTANOL
1PECHX	1-PROPENYLCYCLOHEXANE
1PNAP	1-PHENYLNAPHTHALENE
1TBCHA	1-T-BUTYLCYCLOHEXANECARBOXYLIC ACID
1OMECH	10% METHANOL
1OMUDM	10-METHYLUDECANOIC ACID, METHYL ESTER
1OOEME	10-OCTADECENOIC ACID, METHYL ESTER
11DCE	1,1-DICHLOROETHYLENE / 1,1-DICHLOROETHFNE
11DCLE	1,1-DICHLOROETHANE
111TCE	1,1,1-TRICHLOROETHANE
112TCE	1,1,2-TRICHLOROETHANE
113MCH	1,1,3-TRIMETHYLCYCLOHEXANE
12DBD4	1,2-DICHLOROBENZENE-D4

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

12DCD4	1,2-DICHLOROETHANE-D4
12DCLB	1,2-DICHLOROBENZENE
12DCLC	1,2-DICHLOROETHANE
12DCLP	1,2-DICHLOROPROPANE
12DMB	1,2-DIMETHYLBENZENE / O-XYLENE
12DNAP	1,2-DIMETHYLNAPHTHALENE
12DPB	1,2-DIPHENYLBENZENE
12DPH	1,2-DIPHENYLHYDRAZINE
12EPCH	CYCLOHEXENE OXIDE / 1,2-EPOXYCYCLOHEXENE
12EPB	1,2-EPOXYETHYLBENZENE / STYRENE OXIDE
12MTDM	12-METHYLTETRADECANOIC ACID, METHYL ESTER
12TMCP	1,1,2,2-TETRAMETHYLCYCLOPROPANE
123CPR	1,2,3-TRICHLOROPROPANE
123MCH	1,2,3-TRIMETHYLCYCLOHEXANE
123TCB	1,2,3-TRICHLOROBENZENE
1234MB	1,2,3,4-TETRAMETHYLBENZENE
124MCH	1,2,4-TRIMETHYLCYCLOHEXANE
124TCB	1,2,4-TRICHLOROBENZENE
13CPDO	1,3-CYCLOPENTADIONE
13DBD4	1,3-DICHLOROBENZENE-D4
13DCLB	1,3-DICHLOROBENZENE
13DCPE	1,3-DICHLOROPROPENE
13DEB	1,3-DIETHYLBENZENE
13DFB	1,3-DIFLUOROBENZENE
13DMB	1,3-DIMETHYLBENZENE / M-XYLENE
13DMBB	(1,3-DIMETHYLBUTYL) BENZENE
13DMCH	1,3-DIMETHYLCYCLOHEXANE
13DNAP	1,3-DIMETHYLNAPHTHALENE
13DNB	1,3-DINITROBENZENE
13DPPR	1,1'-(1,3-PROPANEDIYL) BIS [BENZENE] / 1,3-DIPHENYLPROPANE
13TDAM	13-TETRADECYNOIC ACID, METHYL ESTER
135MCH	1,3,5-TRIMETHYLCYCLOHEXANE
135TMB	1,3,5-TRIMETHYLBENZENE
135TNB	1,3,5-TRINITROBENZENE
14DCBU	1,4-DICHLOROBUTANE
14DCLB	1,4-DICHLOROBENZENE
14DFB	1,4-DIFLUOROBENZENE
14DIOX	1,4-DIOXANE
14DMCH	1,4-DIMETHYLCYCLOHEXANE
14DMNP	1,4-DIHYDRO1,4-METHANONAPHTHALENE
14DMXA	1,4-DIMETHOXYANTHRACENE
14DNB	1,4-DINITROBENZENE
14D2EB	1,4-DIMETHYL-2-ETHYLBENZENE
14MPME	14-METHYLPENTADECANIC ACID, METHYL ESTER
15DNAP	1,5-DIMETHYLNAPHTHALENE
15MHME	15-METHYLHEXADECANOIC ACID, METHYL ESTER
16DMIN	1,6-DIMETHYLBINDAN
16DNAP	1,6-DIMETHYLNAPHTHALENE
16MHME	16-METHYLHEPTADECANOIC ACID, METHYL ESTER
167TMN	1,6,7-TRIMETHYLNAPHTHALENE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

17PTCE	17-PENTATRIACONTENE
18DNAP	1,8-DIMETHYLNAPHTHALENE
18O18D	1,2,3,4,4A,5,8,8A-OCTAHYDRO-1,4,5,8-DIMETHANOLNAPHTHALEN-2-OL
2A46DA	2-AMINO-4,6DINITROANILINE
2A46DT	2-AMINO-4,6DINITROTOLUENE
2BEETO	2-(2-N-BUTOXYETHOXY)ETHANOL
2BEMDE	2,2-BIS(ETHYLMERCAPTO)DIETHYL ETHER
2BMMPR	2,2-BIS(METHYLMERCAPTO)PROPANE
2BNMNM	2-BUTYL-N-METHYLNORLEUCINE, METHYL ESTER
2BRHXA	2-BROMOHEXANOIC ACID
2BUXEL	2-BUTOXYETHANOL
2B1CP	2-BROMO-1-CHLOROPROPANE
2B1OOL	2-BUTYL-1-OCTANOL
2B4MFU	2-(1-BUTYL)4-METHYLFURAN
2CBMN	O-CHLOROBENZYLIDINEMALONONITRILE
2CECHO	2-(2-CYANOETHYL)CYCLOHEXANONE
2CHAEF	2-CYCLOPENTENE-1-HENDECANOIC ACID, ETHYL ESTER
2CHE1L	2-CYCLOHEXEN-1-OL
2CHE1O	2-CYCLOHEXEN-1-ONE
2CLBP	2-CHLOROBIPHENYL
2CLEVE	(2-CHLOROETHOXY)ETHENE / 2-CHLOROETHYLVINYL ETHER
2CLP	2-CHLOROPHENOL
2CLPD4	2-CHLOROPHENOL-D4
2CMCHO	2-(CYANOMETHYL)CYCLOHEXANONE
2CNAP	2-CHLORONAPHTHALENE
2C4E	E-BUTENE
2C6MPZ	2-CHLORO-6-METHOXY-10H-PHENOTHIAZINE
2DMPEN	2,2-DIMETHYLPENTANE
2ECYBL	2-ETHYLCYCLOBUTANOL
2EP	2-ETHYLPHENOL
2E1HXL	2-ETHYL-1-HEXANOL
2E2HPD	2-ETHYL-2-HYDROXYMETHYL-1,3-PROPANEDIOL
2E4MPL	2-ETHYL-4-METHYL-1-PENTANOL
2FBP	2-FLUOROBIPHENYL
2FNAP	2-FLUORONAPHTHALENE
2FP	2-FLUOROPHENOL
2HBDDM	2-HYDROXYBUTANEDIOIC ACID, DIMETHYL ESTER
2HBNZL	2-HYDROXYBENZALDEHYDE / SALICYLALDEHYDE
2HNDOL	2-HENDECANOL / 2-UNDECANOL
2HYBP	2-HYDROXYBIPHENYL
2MBZA	2-METHYLBENZYL ALCOHOL
2MCPNE	2-METHYLCYCLOPENTANONE
2MCYPL	2-METHYLCYCLOPENTANOL
2MC3	2-METHYLPROPANE / ISOBUTANE
2MC4	2-METHYLBUTANE/ISOPENTANE
2MC7	2-METHYLHEPTANE / ISOCTANE
2MD&C	2-METHYLDECANE
2MDOD	2-METHYLDODECANE
2MENAP	2-(1-METHYLETHYL)NAPHTHALENE
2MEPEN	2-METHYLPENTANE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

2MMECO	2-METHYL-5-(1-METHYLETHYL)-2-CYCLOHEXEN-1-ONE
2MNAP	2-METHYLNAPHTHALENE
2MP	2-METHYL PHENOL / 2-CRESOL
2MPAHT	2-METHYLPROPANOIC ACID, 3-HYDROXY-2,4,4-TRIMETHYLPENTYL ESTER
2MPAME	2-METHYLPROPANOIC ACID, METHYL ESTER
2MPAIE	2-METHYLPROPANOIC ACID, 1-(1,1-DIMETHYLETHYL)-2-METHYL-1,3-PROPANEDIYL ESTER
2MPEAE	2-METHYL-2-PROPENOIC ACID, 1,2-ETHANEDIYLESTER
2MPYR	2-METHYLPYRENE
2MTETD	2-METHYLTETRADECANE
2MTHF	2-METHYLTETRAHYDROFURAN
2MTHPM	2-METHYLTHIO-4-HYDROXYPYRIMIDINE
2MXEXL	2-(2-METHOXYETHOXY)ETHANOL / DIETHYLENEGLYCOL MONOMETHYLETHRER
2MXMC3	2-METHOXY-2-METHYLPROPANE / TERT-BUTYLMETHYL ETHER
2MXTMB	2-METHOXY-2,3,3-TRIMETHYLBUTANE
2MX1PE	2-METHOXY-1PROPENE
2M1DDL	2-METHYL-1-DODECANOL
2M1PNE	2-METHYL-1-PENTENE
2M2BDA	2-METHYL-2-BUTENEDIAMIDE
2M2C3L	2-METHYL-2-PROPANOL / TERT-BUTANOL
2M2H3B	2-METHYL-2-HYDROXY-3-BUTYNE
2M24P	2-METHYL-2,4-PENTANEDIOL
2M3HXE	2-METHYL-3-HEXENE
2M3PNO	2-METHYL-3-PENTANONE
2NBZLZ	2-NITROBENZALAZINE
2NKCL	2N POTASSIUM CHLORIDE SOLUTION
2NNDPA	2-NITRO-N-NITROSODIPHENYLAMINE
2NODCO	2-NONADECANONE
2NP	2-NITROPHENOL
2NT	2-NITROTOLUENE
2N3C	3-METHYL-2-NITROPHENOL / 2-NITRO-M-CRESOL
2OXBEL	2,2-OXY-BIS [ETHANOL]
2PETOH	2-PHENYLETHANOL
2PHXEL	2-PHENOXYETHANOL
2PNAP	2-PHENYLNAPHTHALENE
2PROL	2-PROPANOL
2PXEXL	2-(2-PHENOXYETHOXY)ETHANOL
2TCLEA	1,1,1,2-TETRACHLOROETHANE
2TMHPD	2,6,10,14-TETRAMETHYLHEPTADECANE
2TMPD	2,6,10,14-TETRAMETHYLPENTADECANE
210DMU	2,10-DIMETHYLUDECANE
225TCB	2,2',5-TRICHLOROBIPHENYL
2255CB	2,2',5,5'-TETRACHLOROBIPHENYL
226TMO	2,2,6-TRIMETHYLOCTANE
23DCLP	2,3-DICHLOROPHENOL
23DMP	2,3-DIMETHYLPHENOL
23DNAP	2,3-DIMETHYLNAPHTHALENE
23D2HL	2,3-DIMETHYL-2-HEXANOL
23TMP	2,2,3,3-TETRAMETHYLPENTANE
2345CB	2,3,4,5-TETRACHLOROBIPHENYL

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

2346CP	2,3,4,6-TETRACHLOROPHENOL
235TMD	2,3,5-TRIMETHYLDECANE
2356CP	2,3,5,6-TETRACHLOROPHENOL
236TMN	2,3,6-TRIMETHYLNAPHTHALENE
237TMO	2,3,7-TRIMETHYLOCTANE
24D	2,4-DICHLOROPHENOXYACETIC ACID
24DCB	2,4'-DICHLOROBIPHENYL
24DCLP	2,4-DICHLOROPHENOL
24DMD	2,4-DIMETHYLDECANE
24DMHX	2,4-DIMETHYLHEXANE
24DMPN	2,4-DIMETHYLPHENOL
24DNP	2,4-DINITROPHENOL
24DNT	2,4-DINITROTOLUENE
24M2PL	2,4-DIMETHYL-2-PENTANOL
24NPD3	2,4-DINITROPHENOL-D3
24T13P	2,2,4-TRIMETHYL-1,3-PENTANEDIOL
245PCB	2,2',4,5,5'-PENTACHLOROBIPHENYL
245T	2,4,5-TRICHLOROPHENOXYACETIC ACID
245TCP	2,4,5-TRICHLOROPHENOL
246MPY	2,4,6-METHYLPYRIDINE
246TCA	2,4,6-TRICHLOROANILINE
246TCP	2,4,6-TRICHLOROPHENOL
246TMO	2,4,6-TRIMETHYLOCTANE
246TNP	2,4,6-TRINITROPHENOL / PICRIC ACID
246TNR	2,4,6-TRINITRORESORCINOL / STYPNIC ACID
246TNT	2,4,6-TRINITROTOLUENE
247HOI	2,2,4,4,7,7HEXAMETHYLOCTAHYDRO-1H-INDENE
247TMO	2,4,7-TRIMETHYLOCTANE
25C14D	2,5-CYCLOHEXADIEN-1,4-DIONE
25DCLP	2,5-DICHLOROPHENOL
25DMP	2,5-DIMETHYLPHENOL
25DMPA	2,5-DIMETHYLPHENANTHRENE
25DTHF	2,5-DIMETHYLTETRAHYDROFURAN
25HPCB	2,2',3,4,5,5',6-HEPTACHLOROBIPHENYL
25Hxcb	2,2',3,4,5,5'-HEXACHLOROBIPHENYL
25OCCB	2,2',3,3',4,4',5,5'-OCTACHLOROBIPHENYL
256TMD	2,5,6-TRIMETHYLDECANE
26DBMF	2,6-DI-T-BUTYL-4-METHYLPHENOL
26DCLP	2,6-DICHLOROPHENOL
26DMO	2,6-DIMETHYLOCTANE
26DMP	2,6-DIMETHYLPHENOL
26DMST	2,6-DIMETHYLSTYRENE
26DMUD	2,6-DIMETHYLUNDECANE
26DNA	2,6-DINITROANILINE
26DNT	2,6-DINITROTOLUENE
26HPCB	2,2',3,4,4',5,6-HEPTACHLOROBIPHENYL
2611MD	2,6,11-TRIMETHYLDODECANE
27DMO	2,7-DIMETHYLOCTANE
27DNAP	2,7-DIMETHYLNAPHTHALENE
29DMUD	2,9-DIMETHYLUNDECANE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

3BPETH	3-BUTENYLPENTYL ETHER
3CHXD	3-CYCLOHEXYLDECANE
3CLP	3-CHLOROPHENOL
3CMCH	3-(CHLOROMETHYL)CYCLOHEXENE
3DCHEO	3,5-DIMETHYL-2-CYCLOHEXEN-1-ONE
3EEBOD	3-ETHYL-5-(2-ETHYLBUTYL)OCTADECANE
3EE2BO	3,4-EPOXY-3ETHYL-2-BUTANONE
3EHXDE	3-ETHYL-1,4HEXADIENE
3EP	3-ETHYLPHENOL
3E22MP	3-ETHYL-2,2DIMETHYLPENTANE / 3-(T-BUTYL)-PENTANE
3E25DH	3-ETHYL-2,5DIMETHYL-3-HEXENE
3HDMPL	3-(HYDROXYMETHYL)-4,4-DIMETHYLPENTANAL
3HDMPT	3-HYDROXY-2,7-DIMETHYL-4-[3H]-PTERIDINONE
3HXE2O	3-HEXEN-2-ONE
3MBP	3-METHYLBIPHENYL
3MCHRY	3-METHYLCHRYSENE
3MEPEN	3-METHYLPENTANE
3MP	3-METHYLPHENOL / 3-CRESOL
3MPANR	3-METHYLPHENANTHRENE
3MUND	3-METHYLUDECANE
3MXIMZ	3-METHOXYIMIDAZOLE
3MXT	3-METHOXYTOLUENE
3M1PL	3-METHYL-1-PENTANOL
3M2CHO	3-METHYL-2-CYCLOHEXEN-1-ONE
3M2C1O	3-METHOXY-2CYCLOPENTEN-1-ONE
3M2C5E	3-METHYL-2-PENTENE
3M2HEO	3-METHYL-2-CYCLOHEXEN-1-ONE
3M2HXL	3-METHYL-2-HEXANOL
3M5PNH	3-METHYL-5-PROPYLNONANE
3NT	3-NITROTOLUENE
3OCTOL	3-OCTANOL
3OPPAE	3-OXO-3-PHENYLPROPANOIC ACID, ETHYL ESTER
3PC3AC	3-PHENYLPROPANOYL CHLORIDE/HYDRPCINNAMYL CHLORIDE
3PT	3-PROPYLTOLUENE
3S5E3L	(3BETA)-STIGMAST-5-EN-3-OL
3TBUP	3-(T-BUTYL)PHENOL
3TCHEO	3,5,5-TRIMETHYL-2-CYCLOHEXEN-1-ONE
33DCBD	3,3'-DICHLOBENZIDINE
33DMHX	3,3-DIMETHYLHEXANE
33DMPN	3,3-DIMETHYLPENTANE
34CBD6	3,3',4,4'-TETRACHLOROBIPHENYL-D6
34DCLP	3,4-DICHLOROPHENOL
34DMP	3,4-DIMETHYLPHENOL
34D1DE	3,4-DIMETHYL-1-DECENE
344TPE	3,4,4-TRIMETHYL-2-PENTENE
345T1H	3,4,5-TRIMETHYL-1-HEXENE
35DMP	3,5-DIMETHYLPHENOL
35DNA	3,5-DINITROANILINE
35DNP	3,5-DINITROPHENOL
35DNT	3,5-DINITROTOLUENE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

35M3HL	3,5-DIMETHYL-3-HEXANOL
36DF90	3,6-DICHLOROFLUOREN-9-ONE
36TMPA	3,4,5,6-TETRAMETHYLPHENANTHRENE
37DMNN	3,7-DIMETHYLNONANE
38DMUD	3,8-DIMETHYLUDECANE
4AMORP	4-ACETYLMORPHOLINE
4A35DT	4-AMINO-3,5-DINITROTOLUENE
4BFB	4-BROMOFLUOROBENZENE
4BRPPE	4-BROMOPHENYLPHENYL ETHER
4B3P20	4-BUTOXY-3-PENTEN-2-ONE
4CCHXL	4-CHLOROCYCLOHEXANOL
4CLPPE	4-CHLOROPHENYLPHENYL ETHER
4CL2C	2-METHYL-4-CHLOROPHENOL / 4-CHLORO-2-CRESOL
4CL3C	3-METHYL-4-CHLOROPHENOL / 4-CHLORO-M-CRESOL / 4-CHLORO-3-CRESOL
4C3MBE	4-CHLORO-3-METHYL-1-BUTENE
4DM2PL	4,4-DIMETHYL-2-PENTANOL
4ETMHP	4-ETHYL-2,2,6,6-TETRAMETHYLHEPTANE
4E2OCE	4-ETHYL-2-OCTENE
4FANIL	4-FLUOROANILINE
4FT	4-FLUOROTOLUENE
4HAZOB	4-HYDROXYAZOBENZENE
4HYBA	4-HYDROXYBENZALDEHYDE
4H3MBA	4-HYDROXY-3-METHOXYBENZALDEHYDE / VANILLIN
4H35BA	4-HYDROXY-3,5-DIMETHOXYBENZALDEHYDE
4IOMQU	4-IODOMETHYLQUINOLICIDINE
4MBP	4-METHYLBIPHENYL
4MBSA	4-METHYLBENZENE SULFONAMIDE
4MC7	4-METHYLHEPTANE
4MDBFU	4-METHYLDIBENZOFURAN
4MENPA	4-(1-METHYLETHYL)-N-PHENYLANILINE
4MFLRE	4-METHYL-9HFLUORENE
4MMBHE	4-METHYL-1-(1-METHYLETHYL)-BICYCLO [3.1.0] HEX-2-ENE
4MP	4-METHYLPHENOL / 4-CRESOL
4MPANR	4-METHYLPHENANTHRENE
4MPYR	4-METHYLPYRENE
4MXCHL	4-METHOXYCYCLOHEXANOL
4MXP	4-METHOXYPHENOL
4M2PPL	4-METHYL-2-PROPYL-1-PENTANOL
4NANIL	4-NITROANILINE
4NP	4-NITROPHENOL
4TBU2C	2-METHYL-4-(T-BUTYL)PHENOL / 4-T-BUTYL-2-CRESOL
4TOP	4-T-OCTYLPHENOL
41MEHP	4-(1-METHYLETHYL)HEPTANE
44DFBZ	4,4-DIFLUOROBENZOPHENONE
44DMPE	4,4-DIMETHYL-2-PENTENE
44DMUD	4,4-DIMETHYLUDECANE
46DN2C	2-METHYL-4,6-DINITROPHENOL / 4,6-DINITRO-2-CRESOL
468TIN	4,6,8-TRIMETHYL-1-NONENE
47DMUD	4,7-DIMETHYLUDECANE
48DMHD	4,8-DIMETHYLUDECANE

\*\*\* FIELD DEFINITIONS \*\*\*

\*\*\* TEST-NAME \*\*\*

5CL2C	5-CHLORO-O-CRESOL / 2-METHYL-5-CHLOROPHENOL
5E2MHP	5-ETHYL-2-METHYLHEPTANE
5E5MD	5-ETHYL-5-METHYLDECANE
5M2HXO	5-METHYL-2-HEXANONE
5M5HAL	5-METHYL-5-HYDROXYHEXANOIC ACID LACTONE
5N2OL	5-NORBOREN-2-OL
5PTRID	5-PROPYLTRIDECAHE
5OH5OA	50%HEXANE-50%ACETONE
5OM5OA	50% METHYLENE CHLORIDE-50% ACETONE
5OWMAN	50%WATER-25%METHANOL-25%ACETONITRILE
6CL3C	3-METHYL-6-CHLOROPHENOL / 6-CHLORO-3-CRESOL
6E6MFV	6-ETHYL-6-METHYLFULVENE
6MEPUR	6-METHYLPURINE
6MTRID	6-METHYLTRIDECAHE
6M3HPL	6-METHYL-3-HEPTANOL
6TBU2C	2-METHYL-6-(T-BUTYL)PHENOL / 6-T-BUTYL-2-CRESOL
7MTRID	7-METHYLTRIDECAHE
8MNNDL	8-METHYL-1,8-NONANEDIOL
9FLENO	9-FLUORENONE
9MBAAN	9-METHYLBENZ [A] ANTHRACENE
9MXANT	9-METHOXYANTHRACENE

ALPHABETIC SORT BY TEST-NAMES:

ANAPNE	ACENAPHTHENE
ANAPYL	ACENAPHTHYLENE
AACHXE	ACETIC ACID, CYCLOHEXYL ESTER
C2AVE	ACETIC ACID, VINYL ESTER / VINYL ACETATE
ACET	ACETONE
CH3CN	ACETONITRILE
ACPHN	ACETOPHENONE
ACIDIT	ACIDITY
ACDHMW	ACIDS (HIGH MOLECULAR WEIGHT)
ACROLN	ACROLEIN
ACRYLO	ACRYLONITRILE
DM	ADAMSITE
ALHMW	ALCOHOLS (HIGH MOLECULAR WEIGHT)
ALDEHY	ALDEHYDES
ALDRN	ALDRIN
ALAL	ALIPHATIC ALCOHOL
ALHC	ALIPHATIC HYDROCARBON
ALK	ALKALINITY
ALKBIC	ALKALINITY BICARBONATE
ALKCAR	ALKALINITY CARBONATE
ALKHYD	ALKALINITY HYDROXIDE
ALKN	ALKANE
AYLETH	ALLYL ETHER
ABHC	ALPHA-BENZENEHEXACHLORIDE / ALPHA-HEXACHLOROCYCLOHEXANE

LISTING OF METHODS TABLE FOR EA ENGINEERING  
(LISTING OF \IRSCC\METHODS.DBF USING \DBASE\METHOD.FRM)

LAB METH NUM	METHOD NAME	MED UNI 1A TS	CER CERTDATE T LVL	CERTIFIED REPORTING LIMIT	MAXIMUM TEST POSSIBLE NAME CONC	QC NM	QC HIGH MAN	QC EXP	QC LOW MAN	QC LOW EXP
ET J802	99 METALS/SOIL/CVAA	50 UGG	99 01/01/85	0.000000	0.0000	N	0.00	0	0.00	0
ET J802	METALS/SOIL/GFAA	50 UGG	01/01/85	0.220000	2.0000 HG	Y	4.50	-1	9.00	-2
ET J804	METALS/SOIL/GFAA	50 UGG	01/01/85	0.007000	0.2000 AG	Y	1.00	-1	1.00	-2
ET J804	METALS/SOIL/GFAA	50 UGG	01/01/85	0.042000	1.0000 SE	Y	2.50	-1	5.00	-2
ET J804	METALS/SOIL/GFAA	50 UGG	01/01/85	0.075000	1.0000 PB	Y	7.50	-1	1.50	-1
ET J804	METALS/SOIL/GFAA	50 UGG	01/01/85	0.350000	2.5000 SB	Y	2.50	0	4.60	-1
ET J804	METALS/SOIL/GFAA	50 UGG	01/01/85	0.085000	1.0000 TL	Y	7.50	-1	1.50	-1
ET J804	METALS/SOIL/GFAA	50 UGG	01/01/85	0.120000	2.0000 AS	Y	1.00	0	2.00	-1
ET J804	METALS/SOIL/GFAA	50 UGG	01/01/85	0.130000	2.5000 SE	Y	2.00	0	2.00	-1
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.170000	10.0000 BA	Y	2.50	0	2.50	-1
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.600000	50.0000 CD	Y	1.00	1	1.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.540000	45.0000 CR	Y	5.00	0	1.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	1.100000	100.0000 CU	Y	1.00	1	2.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	3.300000	20.0000 NI	Y	1.90	1	3.80	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.720000	35.0000 ZN	Y	5.00	0	1.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	11.100000	40.0000 MIT	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.148000	2.0000 CYN	Y	1.50	0	3.00	-1
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.008680	0.0400 ABHC	N	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.009740	0.0400 ALDRN	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.002480	0.0800 DLDRN	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.002570	0.0800 ENDRN	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.008630	0.0400 HPCL	N	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.007570	0.0400 LIN	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.026500	0.2400 MLTHN	N	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.052000	0.4000 PCB016	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.067500	0.8000 PCB260	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.004840	0.0800 PPDD	N	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.002000	0.0800 PPDE	N	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.002510	0.0800 PPDT	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	1.030000	50.0000 12DCD4	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.228000	50.0000 48FBD2	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.900000	50.0000 CD2CL2	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.095000	50.0000 ETB010	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.998000	50.0000 MEC508	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.144000	50.0000 TRCLE	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	2.300000	50.0000 12SBD4	Y	1.00	1	1.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	6.700000	50.0000 246TBP	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	2.600000	50.0000 2CLPD4	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	2.100000	50.0000 2FBP	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	2.800000	50.0000 2FP	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.830000	20.0000 DEPT4	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	8.200000	50.0000 DNDPD4	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	3.300000	50.0000 PHEND6	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	3.300000	50.0000 TRSD14	Y	1.00	1	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.300000	50.0000 133TMB	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.830000	5.0000 122ND	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	0.500000	20.0000 246TNT	Y	0.00	0	0.00	0
ET J802	METALS/SOIL/ICPLASHA	50 UGG	01/01/85	2.400000	10.0000 24ENT	Y	0.00	0	0.00	0

LISTING OF METHODS TABLE FOR EA ENGINEERING  
(LISTING OF \IRSCC\METHODS.DBF USING \DBASE\METHTAB.FRM)

LAB METH NUM	METHOD NAME	MED UNIT T.S.	CER CERTDATE T LVL	CERTIFIED REPORTING LIMIT	MAXIMUM TEST POSSIBLE NAME CONC	QC NM	QC HIGH MAN	QC HIGH EXP	QC LOW MAN	QC LOW EXP
ET LW01	ORGANONITRATES/SOIL/HPLC	SO UGG	C1 09/15/86	0.540000	5.0000 26DNT	Y	0.00	0	0.00	0
ET LW01	ORGANONITRATES/SOIL/HPLC	SO UGG	C1 09/15/86	9.200000	40.0000 HMX	Y	0.00	0	0.00	0
ET LW01	ORGANONITRATES/SOIL/HPLC	SO UGG	C1 09/15/86	9.200000	40.0000 NB	Y	0.00	0	0.00	0
ET LW01	ORGANONITRATES/SOIL/HPLC	SO UGG	C1 01/05/87	6.690000	200.0000 RDX	Y	0.00	0	0.00	0
ET LW01	ORGANONITRATES/SOIL/HPLC	SO UGG	C1 08/06/87	2.810000	10.0000 TETRYL	Y	0.00	0	0.00	0
ET LW01	METALS/WATER/CVAA	WA UGL	C1 09/29/86	1.100000	10.0000 HG	Y	5.00	0	2.00	0
ET SC01	METALS/WATER/AAS	WA UGL	C1 09/23/86	450.000000	4000.0000 NA	Y	4.00	3	1.00	3
ET SD04	METALS/WATER/GFAA	WA UGL	C1 09/29/86	0.140000	4.0000 AG	Y	1.40	0	2.80	-1
ET SD04	METALS/WATER/GFAA	WA UGL	C1 09/29/86	0.830000	20.0000 BE	Y	8.00	0	1.40	0
ET SD04	METALS/WATER/GFAA	WA UGL	C1 09/29/86	1.500000	20.0000 PB	Y	1.50	1	3.00	0
ET SD04	METALS/WATER/GFAA	WA UGL	C1 09/29/86	7.000000	50.0000 SB	Y	7.00	1	1.40	1
ET SD04	METALS/WATER/GFAA	WA UGL	C1 09/29/86	1.700000	20.0000 TL	Y	1.00	1	2.00	0
ET SE01	METALS/WATER/HYAA	WA UGL	C1 09/29/86	2.450000	40.0000 AS	Y	2.50	1	5.00	0
ET SE01	METALS/WATER/HYAA	WA UGL	C1 09/29/86	2.500000	50.0000 SE	Y	2.50	1	5.00	0
ET SE02	METALS/WATER/HYAA	WA UGL	C1 11/25/86	3.400000	200.0000 BA	Y	3.00	1	4.00	0
ET SE02	METALS/WATER/ICPLASHA	WA UGL	C1 11/25/86	11.900000	1000.0000 CD	Y	1.00	2	2.00	1
ET SE02	METALS/WATER/ICPLASHA	WA UGL	C1 11/25/86	10.800000	900.0000 CR	Y	1.00	2	2.00	1
ET SE02	METALS/WATER/ICPLASHA	WA UGL	C1 11/25/86	21.300000	2000.0000 CU	Y	2.00	2	4.00	1
ET SE02	METALS/WATER/ICPLASHA	WA UGL	C1 11/25/86	65.200000	400.0000 NI	Y	6.00	2	1.20	2
ET SE02	METALS/WATER/ICPLASHA	WA UGL	C1 11/25/86	14.300000	700.0000 IN	Y	4.00	2	8.00	1
ET TF02	ANIONS/WATER/TECHNICON	WA UGL	C1 10/07/86	244.000000	2000.0000 BR	Y	3.00	3	5.00	2
ET TF03	ANIONS/WATER/TECHNICON	WA UGL	C1 10/07/86	5000.000000	150000.0000 CL	Y	5.00	4	1.00	4
ET TF04	ANIONS/WATER/TECHNICON	WA UGL	C1 09/23/86	4730.000000	75000.0000 S04	Y	5.00	4	1.00	4
ET TF04	ANIONS/WATER/TECHNICON	WA UGL	C1 09/23/86	29.500000	500.0000 CYN	Y	3.50	2	5.00	1
ET TF04	ANIONS/WATER/TECHNICON	WA UGL	C1 09/23/86	56.900000	1000.0000 P04ORT	Y	5.00	2	1.00	2
ET TF04	ANIONS/WATER/TECHNICON	WA UGL	C1 09/23/86	870.000000	5000.0000 PHENLC	Y	4.00	3	2.00	3
ET TF07	PHENOLS/WATER/TECHNICON	WA UGL	C1 10/07/86	24.000000	2000.0000 NIT	Y	5.00	3	5.00	1
ET TU01	ANIONS/WATER/ELECTRODE	WA UGL	C1 08/12/86	560.000000	10000.0000 F	Y	5.00	3	1.00	3
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.170000	1.2500 ABHC	N	1.50	0	3.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.150000	1.2500 ALDRN	N	1.50	0	3.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.250000	2.5000 DLDNR	Y	3.00	0	4.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.500000	2.5000 EMDRN	Y	3.00	0	4.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.160000	1.2500 HPCL	N	1.50	0	3.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.130000	1.2500 LIN	Y	1.50	0	3.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	1.300000	12.5000 PCB016	Y	1.50	1	2.50	0
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	2.500000	25.0000 PCB260	Y	2.50	1	5.00	0
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.270000	2.5000 PPDE	N	1.50	0	3.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.270000	2.5000 PPDE	N	1.50	0	3.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	0.270000	2.5000 PPDDT	Y	1.50	0	3.00	-1
ET UH01	PESTICIDES/WATER/CEC	WA UGL	C1 12/16/86	25.200000	40.3000 DTHP	Y	4.00	1	3.00	1
ET UH01	ORGANOSULFURS/WATER/GC/F	WA UGL	C1 07/24/87	47.400000	100.0000 CPMS	Y	1.50	2	8.00	1
ET UH01	ORGANOSULFURS/WATER/GC/F	WA UGL	C1 12/29/86	79.600000	100.0000 CPMSD	Y	1.00	2	1.00	2
ET UH01	ORGANOSULFURS/WATER/GC/F	WA UGL	C1 12/29/86	30.800000	100.0000 CPMSD2	Y	1.00	2	4.00	1
ET UH01	ORGANOSULFURS/WATER/GC/F	WA UGL	C1 07/29/86	4.800000	200.0000 12DCD4	Y	5.00	1	0.00	0
ET UH01	VOLATILES/WATER/GCMS	WA UGL	1A 07/14/86	8.100000	50.0000 48FB	Y	5.00	1	0.00	0
ET UH01	VOLATILES/WATER/GCMS	WA UGL	1A 07/14/86	6.700000	50.0000 CD2CL2	Y	5.00	1	0.00	0
ET UH01	VOLATILES/WATER/GCMS	WA UGL	1A 07/14/86	5.800000	400.0000 ETBD10	Y	5.00	1	0.00	0
ET UH01	VOLATILES/WATER/GCMS	WA UGL	1A 07/14/86	1.500000	200.0000 YECADB	Y	5.00	1	0.00	0
ET UH01	VOLATILES/WATER/GCMS	WA UGL	1A 07/14/86	1.200000	500.0000 TRTF	N	5.00	1	0.00	0

LISTING OF METHODS TABLE FOR EA ENGINEERING  
(LISTING OF \IRSCC\METHODS.DBF USING \DRASE\METHTAB.FRM)

LAB METH NUM	METHOD NAME	MED UNI 1A TS	CER CERTDATE T LVL	CERTIFIED REPORTING LIMIT	MAXIMUM TEST POSSIBLE NAME CONC	QC NM	QC HIGH MAN	QC HIGH EXP	QC LOW MAN	QC LOW EXP
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	2.300000	200.0000 13DBD4	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	24.600000	200.0000 246TBP	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	2.200000	200.0000 2CLPD4	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	1.800000	100.0000 2FBP	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	1.100000	20.0000 2FP	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	32.200000	200.0000 DEPD4	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	2.500000	200.0000 DNCPD4	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	6.400000	100.0000 NBD5	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	3.900000	200.0000 PHEND6	Y	1.00	2	0.00	0
ET UN02	ORGANICS/WATER/GCHS	WA UGL	1A 10/20/86	7.400000	100.0000 TRPD14	Y	1.00	2	0.00	0
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	5.840000	100.0000 13STNB	Y	0.00	0	0.00	0
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	9.080000	80.0000 13DNB	Y	4.00	1	8.00	0
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	4.250000	100.0000 246TNT	Y	0.00	0	0.00	0
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	2.220000	20.0000 24DNT	Y	0.00	0	0.00	0
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	5.700000	80.0000 24DNT	Y	4.00	1	8.00	0
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	5.070000	200.0000 MHX	Y	1.00	2	2.00	1
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 08/05/87	4.500000	20.0000 NB	Y	0.00	0	0.00	0
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	4.190000	140.0000 RDX	Y	8.00	1	1.40	1
ET UN02	ORGANONITRATE/WATER/HPLC	WA UGL	C1 11/18/86	4.390000	80.0000 TETRYL	Y	4.00	1	8.00	0
ET UN03	ORGANOSULFURS/WATER/HPLC	WA UGL	C1 12/12/86	720.000000	16000.0000 TBGCL	Y	7.00	3	1.40	3